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SEVENTY-FOURTH ANNUAL REPORT

OF THE

BOARD OF EDUCATION.

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JANUARY, 1911.

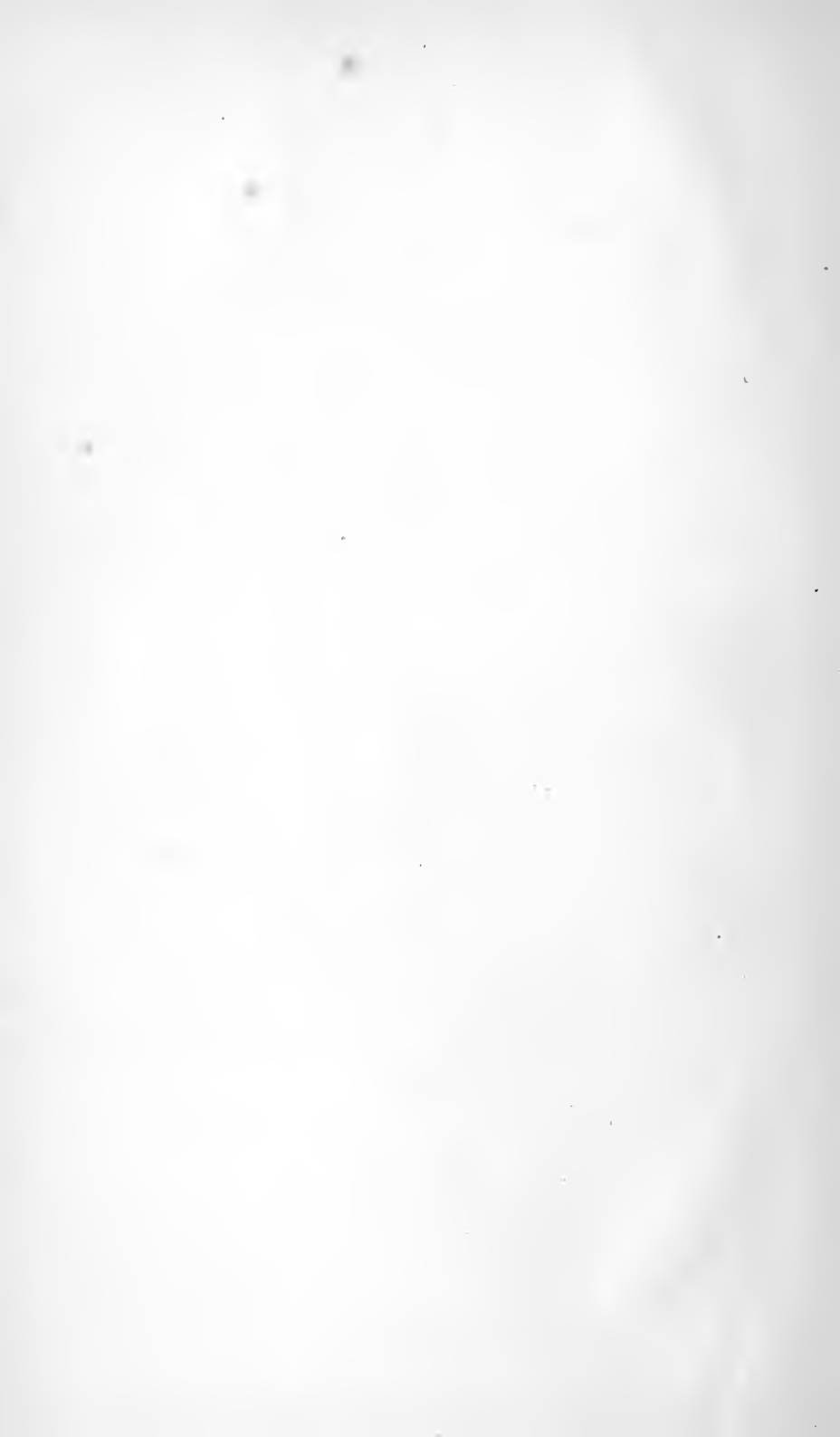


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# STATE BOARD OF EDUCATION.

## 1911.

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Term expires  
May 1.

### BY APPOINTMENT.

1913.	FREDERICK P. FISH, <i>Chairman</i> ,	. . .	BROOKLINE.
1912.	Miss SARAH LOUISE ARNOLD,	. . .	NEWTON CENTER.
1913.	Mrs. ELLA LYMAN CABOT,	. . .	BOSTON.
1912.	SIMEON B. CHASE,	. . .	FALL RIVER.
1911.	LEVI L. CONANT,	. . .	WORCESTER.
1911.	THOMAS B. FITZPATRICK,	. . .	BROOKLINE.
1913.	FREDERICK W. HAMILTON,	. . .	SOMERVILLE.
1911.	PAUL H. HANUS,	. . .	CAMBRIDGE.
1912.	CLINTON Q. RICHMOND,	. . .	NORTH ADAMS.

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### COMMISSIONER OF EDUCATION.

DAVID SNEDDEN, FORD BUILDING, . . . BOSTON.

### DEPUTY COMMISSIONERS OF EDUCATION.

WILLIAM ORR, FORD BUILDING, . . . BOSTON.  
CHARLES A. PROSSER, FORD BUILDING, . . . BOSTON.

### TREASURER.

GEORGE H. MARTIN, FORD BUILDING, . . . BOSTON.

### AGENTS.

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JULIUS E. WARREN, . . . WORCESTER.  
FREDERIC LYNDEN BURNHAM, . . . CAMBRIDGE.  
FRANK WALDO, FORD BUILDING, . . . BOSTON.  
RUFUS W. STIMSON (SPECIAL), FORD BUILDING, BOSTON.

### ASSISTANTS.

MRS. AGNES CAROLINE BLAKE,

*Chief Clerk and Secretary to the Commissioner.*

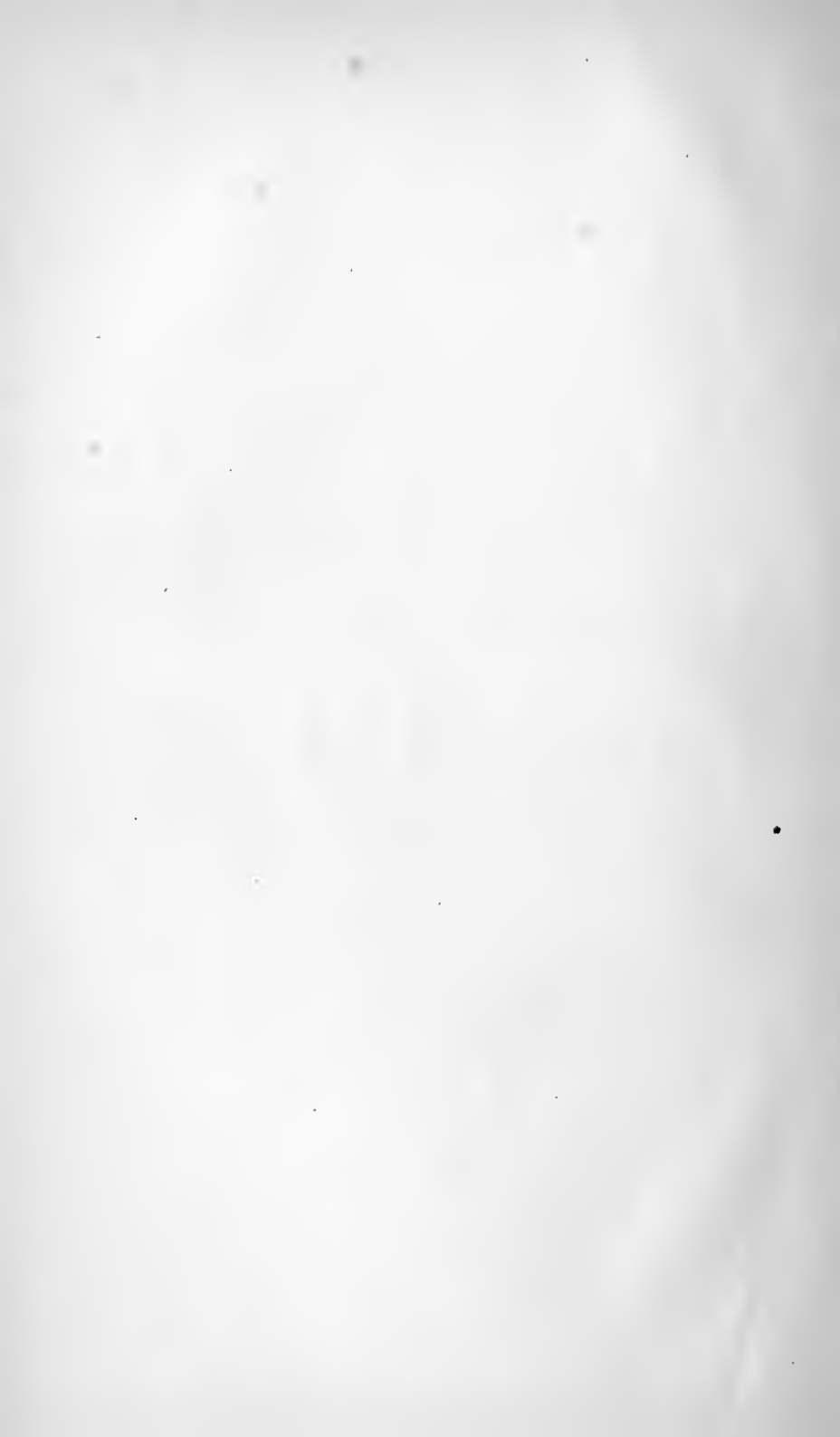
Miss ESTHER E. ELWELL.

Miss SARAH A. HOLT.

GEORGE H. VARNEY.

Miss MIRIAM P. CLARK.

Miss ANNA M. MURRAY.



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ANNUAL REPORT

OF THE

BOARD OF EDUCATION.

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## ANNUAL REPORT.

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The Board of Education has the honor to submit herewith to the Legislature, in accordance with section 6 of chapter 39 of the Revised Laws, as amended by section 4 of chapter 457 of the Acts of 1909, its seventy-fourth annual report. This document contains a report from the Commissioner of Education, presenting to the Board "observations upon the condition and efficiency of the system of public education and suggestions in regard to the most practical means of approving and extending it," together with the customary statistics; also, the report on independent industrial schools required by section 6 of chapter 505 of the Acts of 1906, and a special report on medical inspection.

It seemed fitting that at the end of his first year of service the Commissioner of Education should have the opportunity to discuss in general terms the results of his survey of the educational system of Massachusetts, and to present particularly such plans and recommendations as seem to him desirable. His report, which is adopted by the Board, is recommended to the consideration of the Legislature. The Board regards it as embodying propositions worthy of careful study.

The customary reports of the individual normal schools are omitted.

For this year, the Board adheres to the statistical arrangement that has heretofore appeared in the reports, inasmuch as the data upon which the statistics are based, have been collected in accordance with the plans adopted before the organization of the present Board. It believes that its statistical and reporting work may hereafter be made more effective without involving any break in the continuity of its annual statistical presentations, and without imposing too severe burdens on school committees and superintendents. In accordance with chapter

452 of the Acts of 1910, there are presented at the close of various sections of the commissioner's report forms of acts which it is the intention of the Board to present to the Legislature at its coming session.

In addition to this report, the Board will submit to the Legislature the special report, "relative to the establishment of a system of agricultural schools," as required by chapter 133 of the Resolves of 1910, in which there are also presented the results of "an investigation of the practicability and desirability of establishing a farm school in the city of Worcester," in accordance with chapter 108 of the Resolves of 1910.

Respectfully submitted,

FREDERICK P. FISH, *Chairman*,  
SARAH LOUISE ARNOLD,  
ELLA LYMAN CABOT,  
LEVI L. CONANT,  
SIMEON B. CHASE,  
THOMAS B. FITZPATRICK,  
FREDERICK W. HAMILTON,  
PAUL H. HANUS,  
CLINTON Q. RICHMOND,

*Members of the Board.*

JAN. 1, 1911.

# BOARD OF EDUCATION.

## SEVENTY-FOURTH ANNUAL REPORT.

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OFFICES OF THE BOARD OF EDUCATION,  
FORD BUILDING, BOSTON, MASS., JAN. 1, 1911.

*To the Board of Education.*

The Commissioner of Education herewith submits for your consideration the appended report. The report consists of two parts, the first being a general survey by the commissioner of the educational situation in Massachusetts; and the second, a detailed report of the work of the Board, presenting the customary statistical returns. The following topics are discussed: —

### PART I. Educational Survey.

- I. — Reorganization of Board.
- II. — Extension of Public Education.
- III. — Centralization of Administrative Activities.
- IV. — General Elementary Education.
- V. — Normal Schools and the Training of Elementary Teachers.
- VI. — Secondary Education and the Certification of High School Teachers.
- VII. — Vocational Education.
- VIII. — Drawing and Manual Training.
- IX. — After-training of Teachers.
- X. — Local Administration and Supervision.
- XI. — Reports of the Board.
- XII. — Defectives and Delinquents.
- XIII. — Compulsory Attendance.
- XIV. — Improvement in School Buildings and Grounds.
- XV. — Teachers' Employment Bureau.
- XVI. — Staff of the Board.
- XVII. — Codification of the School Laws.

## PART II. Detailed Report of the Work of the Board.

- I. — Summary of Statistics.
  - II. — Normal School Data.
  - III. — Teachers' Institutes.
  - IV. — Kindergartens.
  - V. — Vacation Schools.
  - VI. — State Aid for High Schools.
  - VII. — High School Tuition Reimbursement.
  - VIII. — Certification of Superintendents of Schools.
  - IX. — List of Superintendents of Schools.
  - X. — Table of Superintendency Unions.
  - XI. — Massachusetts School Fund.
  - XII. — Report of Treasurer of Board of Education.
  - XIII. — Independent Industrial Schools.
  - XIV. — Medical Inspection in the Public Schools.
  - XV. — County Training Schools.
- Abstract of School Returns.

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PART I.

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EDUCATIONAL SURVEY.

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## PART I. — EDUCATIONAL SURVEY.

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### I. — REORGANIZATION OF THE BOARD OF EDUCATION.

Public education, organized to supplement private and church enterprise, was administered in the early history of Massachusetts entirely by local agencies. The colonies, and later the Commonwealth, imposed certain conditions by legislation, but it was left to local authorities to enforce such laws. By act of the Legislature of 1837, the Board of Education was created. It was directed by statute, as set forth in its first report, "to prepare and lay before the legislature in a printed form on or before the second Wednesday in January, annually, an abstract of the school returns received by the secretary of the Commonwealth, and to make a detailed report to the legislature of all their doings with such observations as their experience and reflection may suggest upon the condition and efficiency of our system of popular education and the most practical means of improving and extending it." In 1839, when the first two normal schools were opened, they were placed under the direction of the Board of Education; and from time to time additional responsibilities were given to it. Aided by the influence of the State Board and its successive secretaries and agents, public education in Massachusetts has undergone a steady evolution. The need of industrial or vocational education called into existence, in 1906, the Commission on Industrial Education, which for three years carried on investigations, promoted interest in the new types of instruction and co-operated with local communities in the establishment of various independent industrial schools. In 1909 the Legislature reconstructed the Board of Education, committed to it the functions heretofore exercised by the Commission on Industrial Education, and provided for an increase in the numbers and responsibilities of its administrative staff. During 1909-10 the Board, after careful

consideration, appointed to the office of commissioner, David Snedden, and to the offices of deputy commissioners, William Orr and Charles A. Prosser. Mr. Snedden came to the work from Columbia University, where he had been Adjunct Professor of School Administration in Teachers College. He had previously taught in Leland Stanford Junior University of California, and had been connected in various capacities with the public schools of that State. Mr. Orr had been for many years identified with public education in Massachusetts. Mr. Prosser, who had had substantial experience in public school work, came to Massachusetts from New York City, where he had been in charge of the educational and industrial work of the Children's Aid Society.

## II. — EXTENSION OF PUBLIC EDUCATION.

The most striking fact in connection with public education during recent years has been the rapid extension of its activities and responsibilities. This development has been contemporaneous with the evolution of modern social economy, of which it is a prominent phase. Social economy finds its origin in efforts to cure and prevent such evils and weaknesses in society as crime, vice, ill health, ignorance, poverty and shiftlessness; and it extends its scope by seeking to procure eventually for all children a full, free and fair start in life, and by promoting in various ways physical, vocational, civic and cultural well-being. Social economy thus, at an early stage, identifies and relates many of its aims and activities with those of popular education. In seeking to promote social welfare it finds its largest possibilities in the field of childhood; and it advances by means of the expansion of intelligence and the development of ideals. Publicly supported education as now conceived is simply one of the agencies in the social program of civilized peoples. Like other forms of public effort, it assumes certain of the functions essential to social well-being, which cannot be performed adequately by private or semi-private agencies.

Phases of this extension of public school activity are discussed in other parts of this report. Not only has the program of elementary and secondary instruction been greatly



enriched, but kinds of service not formerly contemplated are now recognized as a legitimate part of the work of the public school. This is notably true of preparation for vocation and of efforts for the conservation of health. The establishment of industrial and agricultural schools; the development of manual training, household arts and commercial studies; the extension of medical inspection; the encouragement within schools of various agencies for the deliberate teaching of citizenship: the provision of public opportunities for play and recreation, — all these illustrate prominent tendencies in the evolution of public education.

With this enlargement of its scope, it is impossible that organization for dealing with public education should remain as local and simple as it has been hitherto. As in other forms of institutional activity, there is a constantly increasing demand for the application of more scientific methods and for more effective co-ordination of effort. In the early stages of the evolution of new functions in the public school system there is a tendency to set up a multiplicity of agencies, and to neglect systematic co-ordination of aims and means. At the present time every division of the work of the public schools offers opportunities for expert investigation and direction. The amount of scientific knowledge available is constantly increasing. The machinery of public education must be organized so as to make it more and more possible to employ scientific methods.

In its origin, the Board was designed to aid in this work, some of its prescribed functions being to collect and interpret statistics; to apply the results in promoting the educational activities of the State; and to study special situations and to make recommendations thereon. Massachusetts preferred to give to the State Board the administration of the normal schools, rather than to leave them under local control, as occurs in some States. So complex were the problems presented by the introduction of industrial education, that it seemed desirable that State contributions to its aid should be accompanied by considerable supervision on the part of State authorities. In local administration it was early seen that the district system

was fraught with disadvantages, and, after a long campaign, the adoption of the town as the more effective unit of organization and administration was made obligatory.

It is clear to one who studies the history of educational administration, that we are as yet in the early stages of the evolution of scientific and efficient methods. Further progress will be dependent largely on the ability of the public to command the service of specialists and to effect a co-ordination of their efforts.

### III. — CENTRALIZATION OF ADMINISTRATIVE ACTIVITIES.

Several factors contribute to the progress of administrative efficiency in public education. A generous interest on the part of the public and willingness to contribute substantially to the support of the schools; a co-operative and helpful spirit on the part of parents and other patrons; and willingness on the part of laymen to assume and discharge official responsibilities as members of boards and committees, — these are among the factors which are developed and are best preserved by a system of administration that is somewhat local and democratic. On the other hand, the shaping and execution of policies on a comprehensive scale; the development of specialists who will devote their lives to the whole or some phase of administration; the establishing of teaching and of administration as real professions; and the formation of agencies for efficient organization, supervision and control, — these demand a certain centralization and systematization of educational efforts which are not readily associated with immediate popular control and direction. The further development of public school systems seems to be dependent upon carefully adjusting and harmonizing those features of administration which are local, popular and democratic in their nature with those which involve a wise assignment and division of authority, large units for the exercise of functions and policies, and the development of professional leaders in all phases or departments of administrative activity. In order that the schools of any State may become progressively more efficient, there must be a definite effort on the part of all concerned to foster the interest and

appreciation of the public on the one hand, and the development and participation of the specially qualified worker on the other. This fine harmony is something that cannot be produced by crude and hasty legislation, nor by a rash withdrawal of administrative duties from one agency and their transfer to another.

The administrative machinery of Massachusetts, as will be noted in other sections, is peculiarly favorable to a right adjustment of the functions herein noted. Legislation tends to be general rather than specific. Actual control by the State Board extends only to schools and institutions serving the State as a whole; while its direct powers of supervision are applied, on the one hand, to the schools of sparsely settled areas which require State aid, and on the other hand, to the promotion of vocational education where special direction and co-operative experimentation are peculiarly necessary. There is little or no attempt, as in many other States, to select experts by means of popular election; this method is reserved for the election of school committees and other non-salaried representatives of the public.

Certain defects in the machinery are evident to all students, and it is to be hoped that these will be corrected in the near future. For example, the exercise of so important a duty as the certification of teachers now devolves upon purely local authorities, who are, except in large cities, not in a satisfactory position to discharge it. In many localities a proper differentiation of functions between lay bodies and their executives is not yet clearly established. Progress in education will come largely in proportion as school committees and other lay representatives of the public exercise the legislative and quasi-legislative functions for which they are peculiarly qualified, and in turn transfer to adequately trained specialists work demanding professional skill and insight.

#### IV. GENERAL ELEMENTARY EDUCATION.

The Board of Education has had from the beginning an intimate connection with the promotion of general elementary education. Certain accomplished results are now so much a matter of course in Massachusetts as sometimes not to attract the

attention which they deserve. The opportunities for attendance in public schools without charge for tuition or text books are now universal; attendance during the time that school is in session is compulsory up to the age of fourteen; throughout the rural areas, individual schools have to a large extent been consolidated and free transportation provided; and the proportion of trained teachers among these now taking up the work is large. Expert supervision through superintendents has been made obligatory throughout the State; and even rural areas now share in some of the benefits of medical inspection. The machinery for the conduct and support of elementary education is in general satisfactory. Large and wealthy centers have almost complete autonomy; rural areas with low taxable valuation receive in various ways support from the State, which is accompanied by a certain amount of supervision by agents of the Board. Further development is here possible without radically new legislation. The suggestions in the latter stages of this report, that by means of legislation the office of the superintendent be dignified; that the unions of towns supporting a superintendent be made more stable; and that a certification measure for teachers in small State-aided high schools be provided, — these are moderate and seem clearly to be on right lines.

In spite of the excellence of available machinery, it must be admitted that elementary education has not yet reached a satisfactory level. This is especially true of the schools maintained in the more sparsely settled towns, and in certain larger manufacturing centers, where local causes prevent or hamper the raising of standards. Some of the difficulties to be met are due to the modification of the demands made upon the schools which is required by modern conditions, and which educators have not yet been fully able to meet, because of insufficient experience and knowledge. It is obvious that the relative part to be played by the school in the education of the child is everywhere increasing; but in spite of this, country schools, especially, are placed at a peculiar disadvantage, in that their teachers are rarely both trained and mature. The country school offers peculiar problems for its teacher. There is little division of labor, such as is possible in city schools. Supervision is

incomplete. Many difficulties are found in correlating school programs and studies with the interests of the community life. Educators everywhere recognize the desirability of making the school a living and organic part of local community activity; but teachers in charge of rural schools are often those least qualified by experience and training to discover and utilize the vital points of contact. The activities of the State Board are not largely concerned with city schools, but the following problems of the elementary schools in towns within the range of its supervision are worthy of consideration.

### 1. *The Course of Study.*

The elementary school of the past had allotted to it a comparatively small program of work. In it were to be taught the so-called school arts, — reading, writing and arithmetic; and a moderate amount of geography, grammar and, perhaps, drawing. There was no demand that in the teaching of these subjects community conditions should be especially considered. The school was not required to assume any responsibility for vocational training, for the general development of taste in reading, or for the teaching of civics, hygiene, natural science or music. The home, the church, the farm and the workshop to a large extent supplied instruction of this character. Steadily, however, the function of the school has been widened, and rather because of demands made by those outside the school than at the initiative of educators. With the increasing number of school years for the average pupil and the additional number of days' attendance claimed by the school, it has been felt that much more should be taught than the simple school arts; that the learning capacities of the children in the fields of literature, history, natural science, music, hygiene, the manual arts and agriculture should be exercised. The enthusiastic promoters of various forms of conservation, such as forestry, bird protection, peace, temperance and morals, have been insistent that the beginnings of their constructive policies should be made in the elementary school.

The result has been such a multiplication of demands on the elementary school as fairly to bewilder the inexperienced

teacher, and to provide serious problems for superintendents. At the present time it may be safely said that we have not a satisfactory theory as to the proper place in school and in organization of these various lines of subject matter. Nothing could be more reasonable than the position that advantage should be taken of the great and varied learning capacity of children in the elementary schools, to teach them as many things as possible that will promote their social well-being; but there is in practice a limit to capacity. Few elementary school pupils are able to give more than five or six years to learning all that is set before them. If the public demands fairly high standards in subjects like spelling, grammar, penmanship, composition, arithmetic, drawing, geography and history, the mastery of which requires a considerable effort, it is evident that somewhere a limit as to subject matter must be reached.

Many educators feel that a more organic formulation of the work of the school will permit the accomplishment of everything above outlined that is worth while, without neglecting any of the essential elements in the child's education. Valuable experiments in this direction are at present being conducted. At least two of the normal schools in Massachusetts are making important contributions in this field. These the schools deliberately take into account and utilize some of the larger activities of the community life, — such as gardening, trading and home industries; and, on these as a basis, build programs of study which embrace enough of reading, spelling, writing, arithmetic, geography, history, civics, manual training, agriculture, and cooking, to give a satisfactory experience and skill in these various subjects. All this is to be accomplished with a minimum expenditure of time and energy, and a maximum of educational result. In a course of study thus planned, hygiene, for example, is not made a subject for separate and special treatment, but is involved in the child's study of the conditions necessary for successfully carrying on work, living at home and enjoying life on a proper basis. It is felt to be undesirable that fragmentary studies in such pure sciences as physics, chemistry, zoölogy, botany and meteorology should

be undertaken. Rather a certain comprehension of these subjects should be gained as incident to courses correlated with local activities and manifestations, such as are usually found in domestic life on the farm, in the community and in connection with play. While such a program of studies is still experimental, features of it are being adopted here and there. Efforts are being made in certain rural schools to introduce the study of agriculture or gardening as a feature of elementary education. Projects or useful exercises in manual training and in work of the household are also undertaken in such schools. The significant results of these experiments are that, while they elicit a large interest in themselves and give a considerable basis of experience and skill definitely applicable to local life, they furnish also a most satisfactory center of correlation for such studies as writing, reading, arithmetic, the keeping of accounts, drawing and science work.

In order that this subject may be approached in a comprehensive way, the Board, through its agents, has undertaken the preparation of a program of study or teacher's manual for rural schools, which shall be comprehensive enough to serve young teachers in these schools as a guide, both in subject matter and in method. It is proposed to enlist in this work the various experts in the normal schools, those superintendents who have given the subject special consideration, and particularly some successful rural school teachers.

The time is apparently ripe to recognize in such a course of study certain distinctions which have hitherto not been clearly formulated. The first of these involves a deliberate differentiation between those parts of the course from which there should be no deviation, and those which admit considerable elasticity of treatment. For example, in each grade certain minimum standards in reading, penmanship, arithmetic, and, for some grades, in geography and history, should be recognized and required. In other subjects, such as nature study and literature, which have an established place in the field of elementary education, it should be possible to allow much flexibility of program both on the part of the teacher and on the part of the pupil. The study of the first group of subjects has as its aim certain

recognized forms of skill or available knowledge. The second consists of those in which it is desirable to give information, to awaken interest and to produce something of appreciation. Hitherto no course of study or teacher's guide has properly indicated the distinction between these groups of elementary school work. The consequence has been that teachers have applied to all subjects alike a formal method, with the inevitable result that more has been attempted than could be accomplished. For example, in one of the upper grades, a certain minimum amount of geography should be thoroughly mastered and made definitely available; no such specific requirement, however, need apply to the teaching of nature study, the manual arts or literature.

Within a given subject, also, it should be possible to distinguish portions which should be imposed as prescriptions in given grades from those in which considerable latitude should be allowed. The multiplication table must be taught everywhere, and with a standard and unvarying degree of effectiveness. It is by no means clear that cube root, compound interest, or complex fractions, need be approached with a similar aim. In music it may prove expedient to insist, in the lower grades, on the formal mastery of the rudiments, but a generous amount of singing should be required in each grade, not as a condition of promotion, but as part of a general program of development for the pupil. In the lower grades it may be doubted whether a course of study should prescribe in minute detail all the manual arts exercises to be followed; it should undoubtedly make a quantitative requirement, but give the teacher much latitude within which to choose appropriate projects or phases of manual work.

The development and application of definite principles in the arrangement of the course of study and the suggestion of sound methods and suitable provisions for grading are greatly needed in rural schools. No more important work than this can present itself to the Board. Any course of study formulated along the above lines would be regarded as suggestive only. It is not the province of the Board to prescribe a course of study, even for the State-aided towns of Massachusetts.



## 2. *The Retardation of School Children.*

Attention has recently been called to the large numbers of children who do not make steady progress through the grades. Careful investigation of this problem is now under way in many States. Enough evidence has been accumulated to show that such retardation represents a decided educational loss. The course of study and system of grading are presumably adapted to the normal child who attends regularly, and whose school work is not interfered with by migration from one town to another. So long as the number of children who fail to advance regularly in the grades remains small, the situation is not serious. It appears, however, that in too many communities only a small percentage of the children actually complete the grades on time. This condition, involving as it does a substantial loss, can undoubtedly be controlled to a large extent by co-operation among educational authorities.

Many children lose their grading because of their migration from one town to another, and inability to accommodate themselves in the latter town to a grade corresponding to that held in the former. To remedy this there is needed, first, a discrimination by the towns between those portions of the course of study which represent attainments indispensable to further progress, and those which do not. A distinction may be made along the lines indicated in the previous section, between those studies from which no deviation can be allowed, and those in which flexibility is possible. Such a differentiation having been made, conferences among various superintendents should develop throughout the State a fair degree of uniformity in prescribed subjects, so that children may pass from the schools of one town into the schools of another without being set back a half or a full year.

A second prominent cause of retardation is irregular attendance. Careful statistics of the amount of attendance made by the children of a given school reveal the fact that very few make a record of more than from 80 to 85 per cent. of attendance in the course of a year. Much of this absence is due to unavoidable causes; some of it can be prevented by a closer

co-operation on the part of the school with the home. To some extent the effects of this evil could be remedied in the case of bright children by means of special classes, such as are now found in some of the more populous centers.

A third cause of retardation, and probably the most important in communities having many foreign children, is that the course of study is ill-adapted to the needs of the pupils. Theoretically, a course of study should be adjusted to the requirements of at least 75 per cent. of the children. It seems probable that many teachers maintain as exacting standards in the relatively less essential subjects as in those that are more critical and decisive. As a consequence, the course of study becomes too burdensome for pupils whose attendance is irregular or whose ability is not of the best. In the last analysis there is a sense in which retardation is always the effect of the course of study, and it is in the course of study that the remedy must be found, provided it is not sought at the expense of the more capable children.

In another section, where alternative courses in the upper grades are discussed, there is indicated one way of meeting retardation. Many of the laggards are found in the fourth, fifth and sixth grades. The course of study in the upper grades has been made so difficult that these children are unable to go on, especially if they are inferior in capacity for abstract thinking. A system of alternative courses, one or more of which might be adapted to those who have little need of the refinements of grammar, higher arithmetic and other difficult subjects, might open the way for considerable numbers of children who now are detained in the intermediate grades.

### *3. A More Satisfactory Professional Outlook for Superintendents and Teachers.*

The rural areas of Massachusetts have only lately acquired expert supervision. Most of the superintendents are practical and painstaking men, but it can hardly be said that we have as yet a satisfactory profession of supervision. It is hoped, that by conference, study of professional subjects and other means, the superintendent's position may grow more effective from

year to year, especially in its influence upon the methods and processes within the schools themselves. With the support of the superintendent, as an educational specialist, country teachers themselves will acquire more professional outlook and capacity. While it must probably remain true for a long time that country schools will be taught for the most part by women of relatively little experience, it is to be hoped that most if not all will be normal graduates. In any event the capacity of these teachers to respond to professional ideals under intimate and effective supervision is very great. The institute system as a means of after-training admits of extensive modification and improvement. The State can well afford to expend considerable energy in bringing about better after-training of these teachers, because of the large return which such training will give in improved capacity and ability.

#### *4. State Aid.*

As already noted, Massachusetts gives financial aid to towns below a certain valuation. The provision is relatively generous so far as these towns are concerned; but it must be noted that Massachusetts stands low among the States in the proportion of its school expenditures which is contributed by the State. It is not here urged that the State should spend more money in the case of these towns. It is not impossible, however, that some of this money could be spent to greater advantage, and in such a way as to put a premium on local efforts. Since the weakest point in the country schools is the compensation of the teachers, the State fund might be used even to a greater extent than at present to constitute it a form of additional assistance only where the town has made a required minimum contribution. Again, it might be wise that a portion of the contribution of the State should be in the form of extra compensation to teachers who prove themselves capable of carrying on such special work as manual training, household arts and elementary agriculture, in addition to the general work for which they receive such compensation as the town can afford. It is important that teachers should be encouraged to undertake work of this character.

V. — NORMAL SCHOOLS AND THE TRAINING OF TEACHERS FOR  
THE ELEMENTARY SCHOOLS.

According to the statistics published by the Board in this report, out of the total of 15,321 public school teachers in Massachusetts, 8,043 were graduates of normal schools. If, as seems probable, few high school teachers are normal school graduates, it would appear that about 60 per cent. of the teachers of the elementary schools of Massachusetts have had professional training. While there is no statistical evidence of the fact, it is generally believed by competent observers that the percentage of trained teachers among those who have recently entered the profession is larger than the above figures would indicate. Probably among the older members of the profession the percentage of teachers not graduates of normal schools is considerably larger. Nevertheless, it is certain that even with ten State and two or three city normal schools in Massachusetts, the supply of trained teachers is unequal to the demand.

The complaint is sometimes made that other States draw from Massachusetts a considerable number of its normal school graduates. This is especially true of New Jersey and some western States, where salaries on the whole are higher than those in Massachusetts. On the other hand, it is well known that Massachusetts takes into its service many teachers trained in the normal schools of New Hampshire, Vermont, Maine, Connecticut and occasionally New York. Superintendents and others well qualified to judge express the conviction that Massachusetts gains considerably more teachers from neighboring States than it loses to the west and south.

The ten normal schools under the direction of the State Board required an outlay for ordinary expenses in 1910 of \$382,641. The number of students in attendance in October, 1910, was 2,160. The average annual number of graduates has been in recent years between 600 and 700. If all of these graduates taught for a considerable term of years, the present system of normal schools would supply a sufficient body of teachers for the State. But investigations have shown that on the average the normal school graduate teaches only four or five years,

after which she either enters another calling or assumes charge of a household. Since each graduate of the normal school costs the State from \$500 to \$600, this may be regarded as an expensive method of procuring teachers. Nevertheless, in view of the excellent training for community and household life received by the normal school graduate in her school and in her teaching experience, few citizens are disposed to complain that the State and the community are in any way losers, even though her term of service as a teacher be but a few years.

The normal schools are becoming schools for women only. Excluding the Normal Art School in Boston, only four of the nine State Schools have any men students whatever; and in these, out of 1,678 students on Dec. 1, 1909, only 70 were men, — less than 4 per cent. The problem of getting desirable men to take up teaching in the elementary schools and to prepare adequately for posts as superintendents is one of the most serious confronting educators at the present time, and it seems practically impossible of solution as long as the compensation of teachers is determined by present standards.

During the year work has been begun on a large dormitory at the Bridgewater Normal School, to replace the wooden building which has been in use for over forty years. It is believed that the new building will reflect credit on the State. Investigations are being made as to the place and significance of dormitory life in the training of teachers. Six of the State normal schools possess fair dormitory facilities, while three are practically without them. There can be hardly any question that two years of dormitory life under proper conditions do much to widen the outlook and enlarge the social capacity of those who are to be teachers. Normal school students are drawn from the middle ranks of life, and if a young woman lives at home during the time that she is preparing for her profession, and especially if she spends considerable time in travelling to and from school, she is hampered in her work and lacks certain advantages incident to dormitory life. Where the dormitories exist, the State practically contributes to the student free rooms, charging only for board and incidentals. It thus appears that the cost to the State of training a girl in a normal school

with a dormitory is increased by a certain amount which does not appear in the above statement of cost.

There can be little doubt that the additional advantages derived from dormitory life constitute a satisfactory return for the investment. The principals of the normal schools which have no dormitories are emphatic in their opinion that the housing of at least a portion of their students in local dormitories would greatly enhance the advantages of the school. Some investigations are now being made as to what should be the desirable type of normal school dormitory in the future. It seems highly probable that the day of the large building, accommodating a hundred or more students, is past. There is a widespread conviction that the "cottage" form of organization would result in still further increasing the possibilities of social and personal development in connection with professional training. Each cottage would contain twenty or twenty-five girls, who would have the sympathetic oversight of some member of the faculty, and whose life would be made as home-like as possible. At the present time no recommendations can be made regarding the increase of dormitory facilities, but it is hoped that in the near future a body of facts bearing on this subject may be presented.

In each normal school in the State attention is first of all given to that which is the main problem of the school, viz., the preparation of teachers for the elementary schools, or, in the case of the Normal Art School, the preparation of supervisors. New developments and experimental work naturally center around these important problems. During the past year the normal school principals, faculty members and the commissioner have been studying the functions of the normal school, with a view to defining them more specifically.

It is well known that the range of method and subject matter in elementary education has enormously increased in recent years. It is also well known that outside the schools of certain rural communities, teaching in the upper grades of the elementary schools is increasingly on a departmental basis, involving the assignment of special subjects to each teacher. Teachers of special training or exceptional personal qualities are required.

The teachers in normal schools are well aware of the fact that a large part of what seems to be the overcrowding of the two years' program of the average student in the normal school is due to the attempt to give a wider mastery of subjects belonging to the higher grades of the elementary school, such as history, English literature, science and mathematics. The typical or average student in the normal school possesses certain well-defined characteristics. She is a graduate of the high school; and she is usually of the more conscientious and able class of students. Like most other young people, she has distinct social limitations, and only average capacity for original work and abstract thinking. Many educators have become convinced that, in the endeavor to cause this typical normal school student to compass the wide range of cultural and technical studies now imposed, particularly in view of the fact that in some subjects, like music, drawing and manual arts, it is necessary for her to begin in the most elementary stages, too much is attempted to permit either the wholesome physical or the wider social development of the young woman who is eventually to be a teacher. The result is a kind of frantic cramming in subject matter, with a view only to the daily recitation; the student has little time for the growth that comes through leisure and reflection.

Considerations of this nature have led to the question whether the normal school should not make its primary function, in the case of students who can stay but two years, the preparation of teachers for the first six grades of the ordinary elementary school. Experience demonstrates that the large majority of normal school graduates must teach in these grades during the first few years of their professional work. It would appear to be easily possible to give in two years an adequate preparation both in cultural and professional studies for work in these grades. The problem of preparing teachers for the higher grades could be taken up on its own merits. Some of these last-named teachers, as in the manual arts, should undoubtedly be specialists; others, in view of the disciplinary problems involved, should unquestionably possess unusual personal qualities. In view of the better salaries paid in the upper grades, it might not be amiss to require a longer period of preparation

for this work. On the other hand, the filling of upper-grade positions might be left, as is now often the case, to superintendents who would select out of the lower grades those teachers whose experience and personal qualifications obviously fit them for the higher-grade work. Further progress in scholarship would depend on the initiative of the individual to whom special preparation in summer schools, or by private study, would be open.

Already several conferences have been held, with a view to arriving at possible conclusions in the above matter. Some of the normal school principals and the commissioner believe that the deliberate formulation of a course of study specially aimed to prepare the typical student of the normal school for teaching in the first six grades, will mark a considerable step forward in procuring technical efficiency.

While each normal school attends mainly to the business of preparing teachers for regular work, it should be said, to the credit of these schools in Massachusetts, that each one has also undertaken constructive or experimental work in a particular field. In this way a peculiar local interest is developed, and the State becomes the richer by virtue of the additional or experimental work thus performed. The Bridgewater Normal School has a certain number of students taking three and in some cases four year courses. Among them are a number of men who are preparing themselves either to be secondary school teachers, after additional study in college, or to be principals and supervisors. For young men there is promise of a fairly satisfactory professional career in supervision, and the experience of Bridgewater may point the way to a definite program of work to this end.

In 1909, the Legislature appropriated \$75,000 for the construction of a building at Fitchburg to be used, in connection with the normal school in that city, for the training of teachers of manual arts. This building was completed in June, 1910, and in the autumn of that year opened with a full attendance of boys and girls belonging to the three highest grades of the Fitchburg schools. This school is organized on a new, and, in the conviction of many educators, a most promising plan. Almost



for the first time in American elementary education it deliberately introduces flexibility and differentiation into the upper grades of the grammar schools. It is well recognized that in recent years there has been a constant tendency to overcrowd the program of studies in upper grades. One desirable subject after another has been introduced, but there has been little elimination. The omission of any subject has been found difficult, because of the number of students who obviously profit therefrom. A foreign language, for example, according to all experience, should be begun, if at all, not later than at the age of twelve. It is impossible, however, to expect all children to study a foreign language. There are many boys who between the ages of twelve and fourteen would gain more from a generous course in manual arts in conjunction with their other studies, than from the study of a foreign language or of the more abstract forms of grammar and arithmetic. There are many girls who probably will not attend the high school, and for whom a varied and substantial course in household arts would prove of more cultural value than the more abstract studies, often taken solely with a view to preparation for the high school. In other words, it becomes clear that varying needs on the part of pupils should be met in the upper-grade work. Outside of one or two cities, however, almost no differentiation has hitherto been possible, owing to the natural reluctance of school authorities to undertake pioneer work.

The Manual Arts School at Fitchburg offers four courses with common elements in English, geography, history, music and drawing, each distinguished by special studies not found in the other courses. One course for boys permits the taking of ten hours a week in manual arts; another course for girls devotes an equal amount of time to household arts. A two years' course, open to both boys and girls, has five hours of manual work, but offers five hours or more of specifically commercial subjects, including typewriting. A four years' course, open to boys and girls, and designed especially for those who would enter high school and college, substitutes for five hours of manual work five hours in a foreign language. By

this means it is believed that a more satisfactory adaptation of work to the needs of varying groups of pupils can be secured. No compulsion is employed as to what course a pupil shall choose. Each of the four courses offers an open door of opportunity, and efforts are made to have the parents and the children themselves make a choice as nearly as possible in conformity with the inherent capacities and the future economic possibilities of the pupils.

This experiment, on trial at the State Normal School at Fitchburg, seems to be of a most important character, and, if it succeeds, should in the course of a few years set the standard of practice in grade organization wherever the number of pupils is sufficiently large to make it profitable.

This school also undertakes to prepare special teachers of manual training, or of manual arts, for boys. In another part of this report it is shown that manual arts have been undergoing a considerable transformation in recent years. Formal courses are being replaced by lines of work more nearly in accord with practical and cultural life. Nowhere is this more fully recognized than at Fitchburg. In the practice school a varied and interesting program giving two hours per day on the average to manual arts has been devised for boys whereby the pupil acquires a wide range of experience in actual work in connection with the numerous industries followed in practical life. Those who have observed these pupils at work believe that, apart from vocational efficiency, the contributions of this enriched manual experience to a liberal education are of fundamental importance. During the current year eight men of good capacity, students in the normal school, are preparing to be special teachers of the manual arts along the lines suggested above and are trained for such work in the practice school. It is hoped that this attendance of young men will considerably increase in the near future. Educators are convinced that in the teaching of manual arts to boys from twelve to fifteen years of age the service of men teachers of considerable industrial experience is indispensable.

The State Normal School at Framingham has developed a large and popular department, wherein young women are

trained through a three years' course to be teachers and supervisors of household arts work. An increasing number of high schools are employing teachers who are specialists in this field, since wherever manual training is made a part of the work of boys in the upper grades, it has been found desirable to procure a specially trained woman to teach household arts to girls. Though this normal school is designed to prepare teachers for elementary education, an excellent reason why it should also prepare these special teachers for high school work is found in the fact that the colleges have not yet entered this field to any appreciable extent, and consequently the public schools would otherwise be unable to secure trained teachers of household arts.

The State Normal School at Hyannis has two distinct features worthy of note. One is the summer school, which has been increasingly successful from year to year, not only in its attendance, but in its effect on the schools of the State. Courses are maintained for superintendents, which furnish an opportunity for busy administrators to become acquainted with the latest developments in educational thought. This summer school has hitherto been maintained at comparatively slight expense to the State. In view of the fact that our institutes under present-day conditions are not well adapted to the after-training of teachers, it might well become the policy of the State to enlarge the scope and increase the support of its summer-school instruction in the normal schools. At Hyannis considerable experimental work has been done also in that form of industrial agricultural training which consists in closely co-ordinating nature work with various other studies, such as drawing, arithmetic and even reading and geography. The results have been satisfactory and have been observed with interest and approval not only by teachers within Massachusetts, but by educators from other States and from abroad. Similar work, especially connected with window gardening suited to city conditions, is carried on in the Normal School at Lowell.

At the Salem State Normal School especial attention is given to gardening, as it can be practiced under city school conditions.

Experimental work also forms a special feature in the North

Adams School. There are in this school, thorough and comprehensive courses fitting teachers for work in manual training. Special attention is given to that kind of agricultural instruction which should be carried on by rural school teachers. The results are felt in the adjacent city schools and in the rural schools of Berkshire County. In the practice work, a certain amount of differentiation in the upper grades has been permitted as an experimental feature. Through all of this work runs the deliberate attempt to train the teachers for an organization of the grade work in elementary schools which will insure that specific subjects shall not remain in isolation, but that they shall be co-ordinated with the vital and important activities of the home, the playground and the workshop. It is impossible in brief compass to explain the significance of these developments, but there is little doubt among educators that it is along this line that a more vital development of elementary school teaching must take place.

At Salem a special course in the training of teachers of commercial subjects is maintained. Superintendents who have been ambitious to introduce commercial subjects into general high schools have often been defeated in their aims by the lack of well-equipped teachers. Graduates of business schools, while possessing considerable technique, are weak in pedagogical power, so that their work when employed as teachers is narrow and often of little educational value. As long as the higher institutions of learning do not include in their programs work which will prepare teachers of commercial subjects, it seems essential that a State normal school should devote itself to this end. Until recently this course in Salem was two years in length, but in 1910 it was put on a three years' basis. While attendance has fallen off somewhat on account of this change, it is believed that the reduction in numbers is but temporary, that the ultimate result will be the more adequate preparation of many teachers in this important subject, and that the school will contribute materially to the improvement of the commercial courses now found in a large number of the high schools of Massachusetts.

The attention of many educators has been drawn to one

phase of experimental work carried on in the State Normal School at Westfield. It is well known that science as usually taught in the normal school is rather barren of significance to the prospective teacher, and often fails to produce any visible results, along either cultural or professional lines. It is now held by many educators that the most satisfactory method of teaching science for the average young person is to begin with its applications to his material and industrial environment. Chemistry, physics and biology are now taught in the State Normal School at Westfield so as to give the prospective teacher a practical insight into the affairs of every-day life, such as the composition of food stuffs, the preservation of health, and the teaching of elementary science in an effective fashion to children and in some cases to parents through their children. This experimental work does not interfere with the regular program for the technical training of teachers, and it does not cost the State anything by way of additional outlay, yet it is undoubtedly of great value.

For many years the State Normal School at Worcester has maintained a system of practice teaching quite unlike that prevailing in other normal schools in Massachusetts and elsewhere. The normal school has possessed no practice school over which it has had control, but has sent its senior students into the regular schools of Worcester, to practice teaching under the supervision of its own faculty. This system has undoubtedly worked well. In view of the large growth in the attendance of the normal school, the difficulties of supervision have greatly increased; and it may be that the normal school itself should have a more intimate control of one school in the city of Worcester, not for purpose of replacing the present system of apprenticeship training, but to render its initial stages more satisfactory.

A department for the training of kindergarten teachers has this year been opened in the Worcester Normal School. An attempt is being made to work out certain problems in kindergarten training, with a view to bringing about a more intimate contact between the school and the home in the case of small children.

In the Normal Art School an important development has

been the adding of evening classes, especially designed for those who wish to perfect themselves in the teaching of drawing or some phase of manual arts. In view of the present active evolution of vocational education in Massachusetts, it is not improbable that the Normal Art School should be permitted to expand in directions bearing on this movement. The Normal Art School belongs to the State of Massachusetts, and if, by an expansion of its present program, it can contribute in valuable ways to the higher development of industry in Massachusetts, every effort should be made to realize that end. The faculty and the principal are progressive; all that is needed is more space and some means wherewith to carry on additional classes.

The normal schools of the State are doing excellent work. They present various needs which must be met, if they are to do full service to the State in providing adequately trained teachers.

The salary schedules in the normal schools present another subject to which careful attention should be given. At the present time the principals are uniformly paid \$3,000 a year; the maximum paid to the men in the faculties is \$2,300; for faculty women, \$1,500; for women in charge of the training work, the salaries vary from \$800 to \$1,200. However adequate these salaries may have been ten years ago, they all now represent something below the desirable maximum. The evidence for this is found in the fact that the normal schools are steadily losing many of their most ambitious teachers. Many of those who remain do so not because of the salary received, but largely because they are greatly attached to the particular kind of work which they are doing, and are unwilling even when better opportunities present themselves, to leave the scene of their labors. A comparative study is being made of normal school salaries in Massachusetts and in other States, with a view to finding out what the State of Massachusetts should do in order to insure permanent efficiency in these schools.

The Normal Art School, which is situated in Boston, owing to surrounding buildings is deprived of necessary light to such an extent that drawing classes must be conducted under artificial light during entire days in winter.

Because of the prospect of extensive building operations near the Fitchburg Normal School in the near future, the Board is this year asking the Legislature to provide a moderate sum of money for the purchase of land which will certainly be needed before many years. In this connection it must be noted that wherever the normal schools are developing new work in gardening and agriculture, a considerable body of land adjacent to the school is almost indispensable.

The Board of Education, believing that an appropriation of \$25,000 should be provided for the purpose of purchasing land adjacent to the Fitchburg Normal School, for the purposes of probable future expansion of the school, intends to present to the forthcoming General Court the following resolve: —

RESOLVE IN FAVOR OF THE BOARD OF EDUCATION.

*Resolved*, That there be allowed and paid out of the treasury of the commonwealth to the board of education the sum of twenty-five thousand dollars, to be applied to the purchase of additional land for the use of the state normal school at Fitchburg.

VI. SECONDARY EDUCATION AND THE CERTIFICATION OF HIGH SCHOOL TEACHERS.

From the standpoint of the Board, the high schools of Massachusetts may be divided into two classes: those in cities and populous towns; and those in less populous areas. From 80 to 85 per cent. of the population of the Commonwealth is found in cities and towns of over 8,000 population. Where families are thus concentrated, the maintenance of a fairly large high school is a simple problem. Such a school can have a faculty of four or five or more teachers, adequate buildings and equipment, and effective supervision. The salaries paid are sufficient to attract and hold teachers of experience and training, and the conditions of tenure of position are such as to enable the teachers to become identified with the life of the community.

It is quite otherwise with the high schools found in less populous areas. In 1910, the Board reported 44 of these each in receipt of \$500 from the State. The small high school to be approved must maintain courses which fit for colleges,

technical institutes and normal schools within the Commonwealth. These schools frequently have but two or three teachers; they pay salaries insufficient to attract able and experienced teachers. The more successful of their teachers soon seek positions in larger schools, where their work can be more specialized, and where the conditions of discipline and administration are less exacting. In many communities there is a desire that these small high schools should serve more effectively the interest of those students who are not destined to have a college education. It is important to the community, however, that, where a boy or girl desires to enter college, the local high school should give suitable preparation. Since the demands of the colleges in the way of entrance requirements can be definitely followed, the small teaching force in the school usually spends its energies to an undue extent in fitting the few students who seek a college education. Apart from this consideration, the small high school would find it exceedingly difficult to introduce courses in agriculture, manual arts and other desirable subjects, because of the scarcity of well-equipped teachers.

During the coming year the Board should make a careful study of the educational conditions and programs of these State-aided high schools, with a view to determining what may be done to enhance their efficiency. In the mean time, one line of action seems open. The State of Massachusetts, unlike most other States of the Union, has no organized system of certifying teachers. The Board only certifies superintendents employed in the State-aided superintendency unions. The certification of all other teachers is left to the local school committees. In some cities it is possible for school committees to use their power of certification in such a way as to select only teachers well qualified for the work offered, and thus to affect the standards of the colleges which prepare candidates for high school positions. Outside the cities, however, the certifying power of the school committees is practically inoperative. The school committees, aided by the superintendents, usually make the best selections possible from the candidates who present themselves. Unfortunately, however, the system of selecting teachers for these schools does not react beneficially on the institutions pre-



paring these teachers. A college or university might develop well-organized pedagogical courses to supplement the academic work in the various departments, with a view to giving a helpful equipment along technical as well as along academic lines to prospective teachers. But the schools employing teachers do not put a premium on such training. No system of certification emphasizes the superior qualities, on the whole, of the teacher specially prepared for a given field of work. The consequence is throughout the State an entire absence of standards. Under the circumstances, the supervision exercised by the State Board through its agents and by the superintendents is of less effect than should be the case.

The time has undoubtedly arrived when the entire matter of certification of high school teachers should be made the duty of the State Board. The certification of elementary school teachers, while as little organized as that for high school teachers, presents a far less urgent need, owing to the fact that the State Board determines the standards of the normal schools, which, through their graduates, practically set the teaching standards in elementary schools throughout the State.

Any system of certificating high school teachers devised by the State Board of Education must give due recognition to the valuable work now done in many Massachusetts colleges in the way of preparing such teachers. It is doubtful if it would be necessary to examine the graduates of some of the colleges as to their general educational qualifications. An arrangement, made by conference between the representatives of the State Board and the representatives of a given college, to determine what kind and amount of preparation could be mutually agreed upon as deserving recognition without examination by the Board, would be sufficient. For example, it could easily be decided that a certain minimum number of hours of college work in physics, chemistry and mathematics, coupled with a certain minimum number of hours in the study of the theory of teaching these subjects and in the problems of secondary education, might be recognized as acceptable preparation on which to certificate a high school teacher in these fields. Such an arrangement having been entered into, the State Board would from

time to time receive the credentials of graduates of such colleges. If the certification of the college authorities showed that a sufficient number of units of work had been taken and the candidate were otherwise approved, it would be possible, with only an oral examination on the part of the Board to determine certain qualities of personal fitness, the candidate taking no written examination, to issue a certificate. On the other hand, certain colleges might desire to have their academic work recognized. The candidate, in such cases, would be required to pass the Board's examination only in pedagogical subjects. Preparation for this examination in the theory of teaching a group of subjects and in other essential fields of pedagogy could be secured by independent effort on the part of the candidate; in some cases the Board might recognize attendance at a summer school, where specific educational courses were taken, as being a fair equivalent for an examination in these subjects.

While such an understanding would clearly be practicable in connection with Massachusetts institutions, it might be less easy to make a similar arrangement with those colleges outside of Massachusetts which contribute a considerable number of high school teachers to this State. In the case of such teachers written examinations might be required, even in academic subjects.

The net effect of the plan outlined above would be an immediate fixing of standards for teaching in the small high schools. These standards should be worked out in conference between the agents of the Board and the representatives of the colleges. It might be expected that certain departments of Massachusetts colleges would find themselves strengthened in their position with relation to their students who are preparing to teach. On the other hand, the effect upon school committees employing such teachers would be immediate and valuable. For the first time in the history of the State, teaching in the small high schools would present some of the aspects of a profession.

While the actual number of teachers employed in the small high schools who would come within the scope of such certification measure is small (it does not exceed 200), nevertheless, the

effect of a law giving the Board the right to certificate in the case of teachers in the State-aided high schools would be widespread. In the course of a few years undoubtedly many college graduates looking forward to teaching in the Commonwealth would desire to possess a certificate. Again, as was mentioned above, many teachers serve an apprenticeship in the small high school, and within a year or two leave for the cities. These would be succeeded in the smaller towns by holders of certificates. Thus in time a large number of teachers would have had to meet the conditions for certification. It is quite conceivable that school committees which do not in any way come under the State Board might nevertheless see fit to require the Board's certificate as an added evidence of qualification.

Much will have to be done in order to determine the place of the small high school in the community, and to work out an effective program for it. The small high school is very often a cultural agency of supreme importance in a somewhat isolated community. The present merits of these schools must not be in any way impaired, but the effort should be made to render them far more vital factors in community life and community development. The problem is intricate, but the Board feels confident that some control on its part of the standards of those who are to teach in such schools is of fundamental importance to development in many directions.

In its special report on agricultural education the Board points the way to the possible formation of agricultural departments in some of these schools. It also suggests that where vocational education in agriculture is not practicable, academic courses in agriculture might be profitable. While in a country high school the department devoted to agricultural education on a vocational plane would not be attended by the students fitting for college or seeking in the high school only a liberal education, its presence would doubtless greatly vitalize the relation of the schools to the community, and render the school a more effective agency for meeting varying needs. In some communities commercial departments of this kind have been successful. There is much more reason to believe that agri-

cultural departments would contribute still more to the success of the school. It seems clear that the original function of the high school as an institution of liberal learning would be assisted by this addition of new functions.

To carry out its recommendations regarding the improvement of small high schools and the certification of certain high school teachers, the Board will submit to the Legislature the following proposed act:—

AN ACT RELATIVE TO THE CERTIFICATION BY THE BOARD OF EDUCATION  
OF HIGH SCHOOL TEACHERS IN STATE-AIDED HIGH SCHOOLS.

*Be it enacted, etc., as follows:*

SECTION 1. After July first, nineteen hundred and twelve, no person shall be eligible to teach in a high school aided directly by the commonwealth, as provided in chapter two hundred, acts of nineteen hundred and six, as amended by chapter four hundred and twenty-seven, acts of nineteen hundred and eight, who does not hold a high school teacher's certificate issued by the board of education, in accordance with section two hereof.

SECTION 2. It shall be the duty of the board of education to define the conditions on which high school teachers' certificates shall be given and held, and to grant such certificates to candidates who shall be found qualified by examination or otherwise; but any person with a satisfactory record as teacher for a period of not less than six months in the high schools of this commonwealth shall be entitled to a certificate to that effect, under this act, if applied for prior to July first, nineteen hundred and twelve, but not otherwise.

SECTION 3. A list of teachers holding high school teachers' certificates under this act shall be kept in the office of the commissioner of education, and shall be sent to superintendents and school committees in the commonwealth, at their request.

SECTION 4. This act shall take effect upon its passage.

## VII. — VOCATIONAL EDUCATION.

Modern social economy recognizes that the function of the public school system is constantly enlarging. Formerly, public school education gave but incidental consideration to vocational needs. The organization of industries and the capacity of the home have been such as to provide most of what was needed in the way of training for practical work, except reading, writ-

ing and arithmetic. The elementary school, the general secondary school and the liberal arts college have not, as a rule, been designed to supply vocational demands. Long ago, however, vocational schools were established for certain callings which were difficult of acquisition or of special social value, namely, medicine, theology, law, pharmacy, war, engineering and teaching. These schools developed when the apprenticeship system for these vocations proved insufficient. Modern industrial conditions have brought about a general decline in the efficiency of the former type of vocational education, — the apprenticeship system. Contemporary demands in agriculture, in the household and in commercial work make training on the old basis of imitation and unorganized apprenticeship impracticable and insufficient. Current educational thought begins to recognize the responsibility of the public school system for other forms of education than those commonly designated liberal. A much wider expansion of vocational education in schools has become a necessity.

Massachusetts early took steps to supplement its systems of schools designed for liberal education by the introduction of schools specializing in one or more phases of vocational training. Forms of vocational education in this, as in other States, were first provided for those qualified for leadership. Professional schools, some privately supported and some aided by the State, including admirable institutions for technological training, have been in existence for many years.

Technical schools for the textile industries are maintained with a special view, on the one hand, of preparing the master workers in these industries; and, on the other, for reinforcing in evening classes the practical experience of day workers. The State Agricultural College has gradually raised its standards and become in effect a professional school. In another domain, also, the State early developed vocational training. In its institutions where the physically defective and the morally delinquent are gathered a large amount of vocational training is given, in accordance with an enlightened policy initiated more than half a century ago.

Private enterprise long since developed a system of voca-

tional schools for certain commercial callings. Because the teaching of bookkeeping, typewriting, stenography and other business subjects is fairly defined and inexpensive, many local high schools also have established vocational departments in these fields. The standards are not always high, nor is there always a definite vocational purpose in this work; but it may fairly be said that much has been accomplished that is of value, and that, too, without State aid.

The Commission on Industrial Education, working in the light of the report of the so-called Douglas Commission, proceeded to conduct a propaganda for vocational training in agriculture, in the industries and in household arts for youths from fourteen years of age upwards. Under the law establishing independent schools, the Commission on Industrial Education developed a number of vocational schools, details of which will be found in Section XIII. of the second part of this report. Under this law, the State assumed the responsibility of contributing a portion of the cost of maintenance of such schools, and large responsibilities for supervision were given to the Commission on Industrial Education, later to devolve upon the State Board.

The Board has endeavored to improve the standards of the schools already founded, and to encourage the establishment of other schools. It has carried on a campaign of publicity, and believes that it has promoted a further and still more practical interest in vocational education.

Because of some uncertainty regarding reimbursement, there has been for a time a disposition on the part of cities and towns to await further legislation before proceeding actively in the establishment of industrial schools. Meanwhile, the Board of Education and its agents, as well as various local commissions and interested citizens, have been studying the problems, and there can be little doubt that, with some modifications of existing legislation, many additional schools will be projected. There is presented elsewhere the report of the Board on the needs and possibilities of agricultural education in Massachusetts and in the city of Worcester, the preparation of which was ordered by the last General Court.

Interest in the further development of vocational education has not waned; indeed, it has become more active and correspondingly more effective than ever. Enough schools are now in existence to form a basis for working out the problem, and the operation of these schools is being watched with much interest. In the course of a surprisingly short period a fairly complete theory of vocational education has been elaborated, which to a greater or less extent has been justified by the experience of existing schools. This theory will, to a great extent, simplify the problem of organizing and conducting new schools. It is now well recognized that vocational education presents a wide range of problems, which distinguish it in essential respects from the liberal education it is designed to supplement. A brief summary of the distinctive features of this theory may not be amiss.

1. Vocational education of all sorts, and especially that designed for young people and for those in the more concrete occupations demands as one element a substantial amount of practical work. To a large extent this practical work must be made the basis, rather than the outgrowth of the more abstract and technical studies. It is now clearly recognized that in vocational education designed, for example, to produce the machinist, machine shop work must precede and accompany the study of drawing, mechanics, mathematics, industrial history and the like. In the preparation of girls for dressmaking, actual work in dressmaking must constitute a large part in the program; and on this work may be based further studies in measurements, color design, textile processes, accounting and industrial hygiene. In the making of a practical farmer out of a boy, it is important to teach him certain applications of mathematics, physics, chemistry, economics and biology, but it is also essential that he should have, under careful guidance, practical experience in growing crops, handling domestic animals, marketing products and in farm management. The theoretical study of foods, marketing, house planning, interior decoration and the like are important in education for the household vocations; but with the average girl these succeed in proportion as they rest on a considerable body of prac-

tical experience, made intelligible through reflection, instruction and study of underlying principles.

It is now possible to interpret and apply the above general theory more or less in detail to the problems of special schools and industries. The vocational school designed for students who can attend only in the evening must obviously limit itself to some particular phase of vocational education. It should supplement the valuable experience which the worker in a given trade acquires from day to day by instruction in theoretical studies relating to that trade. A young man of twenty may have attained considerable proficiency in an industrial calling, and have arrived at the stage where the study of the related drawing, mathematics, applied art or science is most illuminating, and valuable in adding to his efficiency. On the other hand, the evening school may take a worker who, under modern specialized conditions of industry, is confined to a routine process only, and give him practical experience in a related process; as, for example, where a person during the day works at a machine, and in the evening gains practical experience in the operation of a somewhat more complicated or slightly different machine. In every case, however, the practical experience forms a foundation on which further study becomes possible.

The same principle reveals itself in various forms of part-time or extension work. Under the direction of the Board, some part-time work is being carried on in industrial schools, under an arrangement whereby the student alternates with vocational study contemporaneous vocational experience in industrial establishments. It may be that the pupil spends one week in a shop and the next week in pursuing studies in drawing and other technical subjects bearing on shop practice. Short courses in agriculture might be conducted on the same principle. These would consist in a direct and practical presentation of theoretical studies, so intimately related to the actual experience of the farmers who take them that the experience and technical instruction would readily fuse into a body of valuable and pertinent knowledge of the science of agriculture. In connection with the commercial courses of some high schools of the State,



business houses are offering the student opportunities of acquiring practical experience, to supplement the technical instruction which the school seeks to impart.

2. So far has the recognition of this principle proceeded that it is now regarded as an indispensable part of a school program which assumes to give both practical and theoretical training that its facilities shall enable its students to produce valuable and useful products.

It is natural that under these circumstances a part-time or co-operative arrangement should be sought. Such a plan necessarily exists in connection with evening schools, as these schools are definitely intended for those who have already established themselves in vocations. In agricultural education for youths from fourteen to twenty years of age, as is shown in the special report devoted to that subject, probably the most satisfactory means of providing for the requisite productive work will be to conduct it on the farms and in the gardens of the parents of the boys, while the school reserves on the practical side a necessary minimum of laboratory and illustrative work, and confines itself mainly to giving the requisite technical instruction in the sciences, mathematics and other subjects which find vocational application in agriculture. There can be little doubt that, so far as the teaching of scientific agriculture is concerned, the way of progress is along the line of co-operation between home and school, with the understanding that the practical work on the farm shall be supervised and kept up to an actual scientific standard by the aid of the special instructor in this subject.

There are many reasons for believing that in the industries a co-operative arrangement between vocational school authorities and employers of labor will be secured, whereby youths may obtain their practical experience in the work shops under the supervision of representatives of the school. Many difficulties may be expected to arise in connection with efforts to bring about this co-operative arrangement; but experience already shows that it is not impossible. Final responsibility for the educational program of the student must always be definitely located. For young men already established in the

industry, this may be left to the student himself; consequently it becomes the function of evening schools and short-course extension work to meet the needs of groups of workers as these present themselves from various industries. On the other hand, where children under eighteen years of age are concerned, it is doubtful if either the workshop or the child should have final responsibility for the educational program, on its practical or technical side. In the case of a part-time system of evening school instruction for those under eighteen years of age, the school should undoubtedly have a final determining voice in arranging that the practical work shall be so graded and correlated with technical instruction as to insure satisfactory educational results.

3. It is now an accepted principle in Massachusetts that the State shall contribute one half of the cost of the maintenance of schools devoted to industrial, household and agricultural education of a vocational nature. Commercial education seems to be sufficiently provided for without State aid. Some uncertainty still exists with regard to the application to particular cases of this principle of support, and doubtless further legislation may be deemed wise, to extend still further the field of its application. For example, under the existing law independent industrial schools might well be organized to provide vocational education not only for girls and women who are entering wage-earning employments in the industries, but also for those who are seeking wage-earning employments in household service. It is not clear, however, under the law that independent industrial schools can provide vocational training for those proposing to become home makers, or for those who are already home makers, but not wage earners. There are many young women in textile industries who desire to attend evening classes in the household arts. This instruction, doubtless, would fit for home making, the ultimate vocation of the large majority. The existing law, however, is interpreted to mean that evening instruction, to be aided by the State, should be directly related to occupations followed during the day, and not merely preparatory to occupations which may be followed at some subsequent time. Plans are under way to establish

day training classes for household service; but there is a question whether under the law such classes can be organized with state aid for those who propose to work in their own homes and not in wage-earning occupations.

4. It has seemed desirable as an administrative measure to preserve a fairly distinct line of demarcation between schools designed for liberal, and those planned to give vocational, education. Vocational education, judged by ultimate standards, should not differ from other types in its general relation to public control and support. For the present, however, standards of vocational education are so little defined and the traditions of the academic aspects of liberal education are so firmly established that it is believed to be indispensable that the two types of schools should be set apart from each other, that vocational education may be left free to respond to the conditions necessary to its development. It does not follow that these schools may not be controlled by the same public school authorities, or that they may not exist in the same buildings; but it is essential that, as regards immediate direction, teachers, courses of study, and daily and yearly programs, there shall be no commingling of the two types of instruction. It may be doubted, indeed, if it will ever be practicable to bring the two kinds of education intimately together. It is also entirely possible that in future a pupil shall spend some of his time each day or week or year in a school designed to give liberal learning, and the remainder of his time in a vocational school. The vocational school manifestly, however, must have such provisions for participation in productive work, or for relating technical studies to productive work, as to give the school a distinctive character. At the present time there is every reason to believe that an attempt to carry on a program of vocational training in conjunction with a program of liberal studies will result in the demoralization of the vocational side of the work. In the minds of many people, various forms of manual training are identified with industrial, household arts and agricultural education. But experience has shown that manual training while it is an important and necessary feature of a program of liberal education, can play but a small part in the program

of vocational training. In like manner, courses of the usual character in science, drawing, and mathematics are out of place in schools really vocational. These subjects, as now organized, may be valuable parts of a program of liberal training; but as taught in the ordinary school they do not fit in a sound scheme of vocational education, inasmuch as they do not have the required relation to the occupations in agriculture, industry and the household arts, for which the vocational school is to train.

5. The law requires and accepts the principle that vocational schools shall be made available to youths, fourteen years of age and over, even though they have not graduated from the elementary schools. This is in conformity with economic conditions, since everywhere it is recognized that the child has the right to seek employment after passing fourteen years of age, if a certain standard of educational attainment has been secured. It would be inexcusable to refuse children admission to vocational schools at a time when they are free to go into "blind alley" callings, and otherwise to seek the inferior training which comes from actual participation in productive work in the callings adapted to children. If the age of release from compulsory school attendance should at some future time be raised, there might be some ground for urging that vocational schools of a specialized nature should not receive any children until perhaps sixteen years of age. Mean time, certain well-defined tendencies in theory and practice are becoming apparent. Vocational schools designed to receive pupils for full day instruction will admit such pupils at fourteen and rarely retain them beyond the age of twenty. Part-time schools, the allotment of time between industry and school always being comprehended within the limits of the ordinary working day, will receive children at fourteen and retain them four to six years. Evening schools, on the other hand, will probably admit only in exceptional cases young people under seventeen or eighteen years of age; and for two reasons: first, a deficiency of practical experience whereon to build; and second, a recognition of the physical impossibility of the average person under seventeen years of age pursuing evening study successfully after a full day of what is often arduous employment.

Elementary schools are developing more and more so-called industrial, agricultural, household arts and manual arts instruction for children under fourteen years of age. There is much evidence that such instruction constitutes a valuable part of a program of liberal education. Of necessity, however, this work must be more or less uniform for large numbers of children, and without reference to their probable vocational careers. Its main objects should be to furnish a satisfactory basis for the correlation of the more formal studies and to give general enrichment of experience. It may be expected to form a ground for vocational choice. Participation in these forms of instruction will occupy, generally speaking, but a few hours per week of the pupil's time. It would be inconsistent with the demonstrated results of educational experience to call this work vocational in any precise use of that term. It is incidentally vocational, and is of great value; but vocational education, to result in genuine efficiency, must be such as will furnish at least twenty to thirty hours per week of actual participation in productive work, and an almost corresponding amount to the study of the technical subjects that are related to this productive work. Any attempt to achieve vocational results by a program containing practical and technical study in less amount than here suggested will probably prove to be a sham, and not entitled to public support. It must be remembered that not merely mastery of processes in the ordinary sense of that term, but also something of the skill which can produce an economic output, is necessary.

6. The problem of training teachers of vocations requires a special solution. From time to time it has been suggested that one of the normal schools of the State should be set apart to do this work. It has also been suggested that one of the technological institutions or colleges of the right type might be encouraged to establish courses for the training of teachers in vocational schools. In time one or both of these projects may be considered; for the present, however, it is evident that in the equipment of its teachers the vocational school must be no less individual than in the content of courses offered. It is necessary that these schools should have instructors whose

first qualification is intimate and practical experience with one or more of the industries in which training is sought. A second important consideration is, that such persons should possess teaching ability. Successful teachers in vocational schools cannot be produced by taking high school, normal school or college graduates who have not had industrial or agricultural experience, and by trying to give them this experience as a form of graduate training. It seems essential that successful teachers in vocational schools should have gained practical efficiency comparatively early in life. Their qualifications as workers should be supplemented to as great an extent as possible by study of the theory of teaching and of the technical aspects of the industrial or other kinds of vocational activity sought. In the early stages of these various schools the procedures at present followed in procuring teachers will probably have to be developed more fully. The principal of the school, who need not be an expert in the industries to be taught in the school, but who must be in entire accord with the principles for which the school stands, must select from the industries young and efficient workers capable of acquiring in some measure the art of teaching. The Board should be in a position to pass upon such candidates by a system of flexible certification. These workers having once undertaken the task of teaching, should be assembled in frequent conferences, where the more educational aspects of their problems can be discussed. In the course of a few years a prolonged summer conference should be arranged, where teachers, principals and agents of the Board may come together for systematic study of the problems involved. Teaching in vocational schools, one may hope, will soon become a profession worthy of attention. When this stage is reached, young men and women, selected because of their practical capacity, may be sent to take graduate courses in the Massachusetts Agricultural College, the technological institutions, the various colleges and other schools prepared for furnishing instruction wherewith to supplement the industrial experience of these teachers. In time the State itself might well establish an institution wherein this form of training for teaching might be provided. It would now appear, that except in unusual instances, it would be inadvisable to

reverse this process, and expect persons of no experience as workers to go into workshops after having obtained an academic education, and there obtain the necessary practical training in the trades. In certain specialized subjects, like drawing and shop mathematics, such a course may be possible; but so far it would appear impracticable to expect that any one trained in these subjects along general lines should be qualified to undertake to teach them for vocational purposes.

7. As above stated, the State now contributes one half the cost of the maintenance of the vocational schools which are under the direction of the Board. The rest of the support falls upon the locality. There is a prospect that the national government may in time contribute to this form of education. Where a vocational school must offer under one roof practical and theoretical training, the expense of such school for equipment and current expenses must of necessity be large. For day pupils the cost for the prevailing types of industrial, agricultural and household arts training will probably run from \$100 to \$200 a year per student. Evening instruction will cost even more, when estimated in terms of hours per student, although the annual per capita outlay will appear as relatively small. There are many reasons for believing that, if there can be developed a part-time arrangement, providing for actual work in the industries, it will prove not only far more economical for the Commonwealth, but will also encourage the attendance of students, owing to the fact that a small wage will be received for the productive work done in the business establishments. It is not impossible that with an effective part-time arrangement a form of vocational training for youths between fourteen and eighteen years of age could be devised, the total cost of which for four years might not exceed \$200 per pupil, with the added advantage that the productive work of the pupil himself might be sufficient during these four years to reimburse, partially at least, his family for his support. This matter is yet in an experimental stage, but the outlook is promising. The Board has found manufacturers and farmers inclined to co-operate in industrial and agricultural education, where feasible plans have been proposed.

In section XIII., Part II., of this report is presented a

detailed account of the independent industrial schools in Massachusetts now under the supervision of the Board, as required by chapter 505 of the Acts of 1906, chapter 572 of the Acts of 1908 and chapter 540 of the Acts of 1909. Recommendations relative to reimbursements by the State are made in that report. The operation of these schools has been successful, and they are a credit to Massachusetts. Each one represents an experiment station for industrial education. The men and women charged with management and instruction in those schools have been earnest and devoted in meeting problems of peculiar difficulty as their tasks are in fields where so little organized knowledge exists. It must be remembered that for the conduct of these schools no plans of management, no courses of instruction and no text-books were available; and, furthermore, that in the practical work a variety of obstacles had to be overcome. In spite of all this, they have succeeded, and have attracted the attention of the entire country.

With the growth of experience, it has become evident that the legislation making possible the establishment and maintenance of these independent industrial schools requires a number of changes in detail. The fundamental principles involved should stand unchanged, but it has been thought necessary to codify the existing law bringing its provisions together into one act and, incidentally, introducing certain modifications in detail for purposes of accuracy and clearness. The proposed codification establishes definitions, and endeavors to distinguish types of schools of a vocational nature. The act has also been carefully drawn to provide for agricultural education, such as is recommended in the special report of the Board to the Legislature, dealing with this subject. The Board will therefore present for the consideration of the Legislature the following act: —



## THE COMMONWEALTH OF MASSACHUSETTS.

IN THE YEAR ONE THOUSAND NINE HUNDRED AND ELEVEN.

AN ACT TO CODIFY AND AMEND LEGISLATION RELATING TO STATE-AIDED  
VOCATIONAL EDUCATION.*Be it enacted, etc., as follows:*

## CONSTRUCTION.

SECTION 1. The following words and phrases as hereinafter used in this act shall, unless a different meaning is plainly required by the context, have the following meanings:—

1. "Vocational education" shall mean any education whose controlling purpose is to fit for profitable employment.

2. "Industrial education" shall mean that form of vocational education which fits for the trades, crafts and manufacturing pursuits, including the occupations of girls and women carried on in workshops.

3. "Agricultural education" shall mean that form of vocational education which fits for the occupations connected with the tillage of the soil, the care of domestic animals, forestry and other wage-earning or productive work on the farm.

4. "Household arts" education shall mean that form of vocational education which fits for occupations connected with the household.

5. "Independent industrial, agricultural or household arts school" shall mean an organization of courses, pupils and teachers, under a distinctive management approved by the board of education, designed to give either industrial, agricultural or household arts education as herein defined.

6. "Evening class" in an industrial, agricultural or household arts school shall mean a class giving such training as can be taken by persons already employed during the working day, and which, in order to be called vocational, must in its instruction deal with the subject matter of the day employment, and be so carried on as to relate to the day employment.

7. "Part-time (or continuation) class" in an industrial, agricultural or household arts school shall mean a vocational class for persons giving a portion of their working time to profitable employment, and receiving in the part-time school, instruction complementary to the practical work which is being carried on in such employment. To give "a portion of their working time" such persons must give a portion of each day, week or longer period to such part-time class during the period in which it is in session.

8. "Independent agricultural school" shall mean either an organization of courses, pupils and teachers, under a distinctive management designed to give agricultural education, as hereinafter provided for,

or a separate agricultural department, offering in a high school, as elective work, training in the principles and practice of agriculture of an extent and character approved by the board of education as vocational.

9. "Independent household arts school" shall mean a vocational school designed to develop on a vocational basis the capacity for household work, such as the callings of cookery, household service and other occupations in the household.

#### STATE ADMINISTRATION AND SUPERVISION.

SECTION 2. The board of education shall be charged with the duty and given all necessary power to investigate and to aid in the introduction of industrial, agricultural and household arts education; to initiate and superintend the establishment and maintenance of schools for the aforesaid forms of education; and to supervise and approve such schools, as hereinafter provided. The board of education shall make a report annually to the legislature, describing the condition and progress of industrial, agricultural and household arts education during the year, and making such recommendations as such board may deem advisable.

#### TYPES OF SCHOOLS.

SECTION 3. In order that instruction in the principles and the practice of the arts may go on together, independent industrial, agricultural and household arts schools may offer instruction in day, part-time and evening classes. Attendance upon such day or part-time classes shall be restricted to those over fourteen and under twenty-five years of age; and upon such evening classes, to those over seventeen years of age.

#### LOCAL ADMINISTRATION AND CONTROL.

SECTION 4. Any city or town may, through its school committee or through a board of trustees elected by the city or town to serve for a period of not to exceed five years, to be known as the local board of trustees for vocational education, establish and maintain independent industrial, agricultural and household arts schools.

SECTION 5. 1. Districts composed of cities or towns, or cities and towns, may, through a board of trustees to be known as the district board of trustees for vocational education, establish and maintain independent industrial, agricultural or household arts schools. Such district board of trustees may consist of the chairman and two other members of the school committee of each of such cities and towns, to be appointed for the purpose by each of the respective school committees thereof; or any such city or town may elect three residents thereof to serve as its representatives on such district board of trustees.

2. Such a district board of trustees for vocational education may adopt for a period of one year or more a plan of organization, administration and support for such schools. Such a plan, if approved by the board of education, shall constitute a binding contract between the cities or towns which are, through the action of their respective representatives on such a district board of trustees, made parties thereto, and shall not be altered or annulled except by vote of two-thirds of the entire district board of trustees and the consent of the board of education to such alteration or annulment.

SECTION 6. Local and district boards of trustees for vocational education, administering approved industrial, agricultural or household arts schools, shall, under a scheme to be approved by the board of education, appoint an advisory committee composed of members representing local trades, industries and occupations. It shall be the duty of such advisory committees to counsel with and advise such local or district boards of trustees and other school officials having the management and supervision of such schools.

#### NON-RESIDENT PUPILS.

SECTION 7. 1. Any resident of any city or town in Massachusetts which does not maintain an approved independent industrial, agricultural or household arts school, offering the type of training which he desires, may make application for admission to such a school maintained by another city or town. The board of education, whose decision shall be final, may approve or disapprove such application. In making such a decision the board of education shall take into consideration: the opportunities for free vocational training in the community in which the applicant resides; the financial status of the community; the age, sex, preparation, aptitude and previous record of the applicant; and all other relevant circumstances.

2. The city or town in which the child resides, whose application for admission to an approved independent industrial, agricultural or household arts school maintained by another city or town has been approved, shall pay such tuition fee as may be fixed by the board of education; and the commonwealth shall reimburse such a city or town, as provided for in this act. If any city or town neglects or refuses to pay for such tuition, it shall be liable therefor in an action of contract to the city or town, or cities and towns, maintaining the school which the pupil, with the approval of the said board, attended.

#### REIMBURSEMENT.

SECTION 8. Independent industrial, agricultural and household arts schools shall, as long as they are approved by the board of education as to organization, control, location, equipment, courses of study,

qualifications of teachers, methods of instruction, conditions of admission, employment of pupils and expenditures of money, constitute approved local or district independent vocational schools. Cities and towns maintaining such approved local or district independent vocational schools shall receive reimbursement as provided for in sections nine and ten of this act.

SECTION 9. 1. The commonwealth, in order to aid in the maintenance of approved local or district independent industrial and household arts schools and of independent agricultural schools consisting of other than agricultural departments in high schools, shall, as provided for in this act, pay annually from the treasury to cities and towns maintaining such schools an amount equal to one half the sum to be known as the net maintenance sum. Such net maintenance sum shall consist of the total sum raised by local taxation and expended for the maintenance of such a school, less the amount, for the same period, of tuition claims, paid or unpaid, and receipts from the work of pupils or the sale of products.

2. Cities and towns maintaining approved local or district independent agricultural schools consisting only of agricultural departments in high schools shall be reimbursed by the commonwealth, as provided for in this act, only to the extent of two thirds of the salary paid to the instructors in such agricultural departments: *provided*, that the total amount of money expended by the commonwealth in the reimbursement of such cities and towns for the salaries of such instructors for any given year shall not exceed ten thousand dollars.

3. Cities and towns that have paid claims for tuition in approved local or district independent vocational schools shall be reimbursed by the commonwealth, as provided for in this act, to the extent of one half the sum expended by such cities and towns in payment of such claims.

SECTION 10. On or before the first Wednesday of January of each year the board of education shall present to the legislature a statement of the amount expended previous to the preceding first day of December by cities and towns in the maintenance of approved local or district independent vocational schools, or in payment of claims for tuition in such schools, for which such cities and towns should receive reimbursement, as provided for in this act. On the basis of such a statement the legislature may make an appropriation for the reimbursement of such cities and towns up to such first day of December.

#### ACTS AND PARTS OF ACTS REPEALED.

SECTION 11. 1. Sections one to six inclusive of chapter five hundred and five of the acts of nineteen hundred and six, sections one to four inclusive of chapter five hundred and seventy-two of the acts of nine-

teen hundred and eight, chapter five hundred and forty of the acts of nineteen hundred and nine, and all acts and parts of acts inconsistent herewith, are hereby repealed.

2. Schools, heretofore established under the acts and parts of acts repealed by this section, and approved by the board of education, shall continue in operation subject to the provisions of this act for such schools.

### VIII. — DRAWING AND MANUAL TRAINING IN THE ELEMENTARY SCHOOLS.<sup>1</sup>

In the encouragement of manual training and drawing as phases of elementary education Massachusetts has taken a prominent part. Drawing has been made compulsory everywhere, and manual training is required in those communities believed to be wealthy enough to meet the necessary expense. Under the influence of a State agent especially supervising the work, there has developed widespread interest and considerable practical response.

Recent years have been a time of experimentation in these fields. There seems to be no question that drawing and manual training should form an increasingly important part of the elementary school program. The organization of this work has presented unusual difficulties, not the least of which has been due to the inability of teachers, in view of their other responsibilities, properly to fit themselves for effective service. Manual arts as a subject of instruction has been much affected by fundamental changes going on in the general field of elementary education. Partisan movements have from time to time developed; and perhaps more than in any other field new theories have exercised an active influence.

The promoters of industrial education, while expecting more from manual training and drawing than has been realized, have not exercised an unfavorable influence on the development of these subjects; rather, they have emphasized the demand that these subjects be made more effective during the period of elementary education. At the present time certain well-defined

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<sup>1</sup> The words "manual training" and "manual arts" are used interchangeably in this section, with a preference for the newer term "manual arts," as more nearly expressing the true and full meaning of the ideas involved.

theories seem to be recognized in the manual arts work, among which are the following:—

1. Manual training or manual arts exhibits, on the side of practice or expression, two well-defined phases or aspects, depending on the presence or absence of a special teacher and special equipment. Administratively speaking, it is now held that manual arts in the first six grades, or with children not over twelve years of age, can be presented by the regular class teacher, and does not require a separate shop or room. Under these circumstances, the manual work is limited to activities, projects, materials, equipment and time requirements that fit into the ordinary schoolroom and program. Some differentiation can be made for boys and girls. The determining aim of the work should be to give the varieties of experience that come from manipulating material objects, and controlling them to preconceived ends. It is doubtful if the notion of specific training of the hand or eye as an end in itself should receive primary consideration. It may also be doubted if, in any line of activity, other than moderate stress should be laid on expertness, finish or such results as demand intensive application. The manual work, if arranged as useful exercises or "projects," may be made the basis of specific exercises in language, arithmetic, drawing and even drill in particular manual operations.

While much experimental work is yet necessary to demonstrate the entire feasibility of manual training or manual arts as here described, it is quite certain that in the lower grades any work of this nature is worth while which appeals to children, and which results in the gain of a varied and attractive experience in manipulation. Incidentally, the significance of precision, harmony of form and color, utility and other accompanying qualities can be enforced.

2. For grades above the sixth, it is now accepted that satisfactory teaching of manual arts and drawing by the regular class teacher is practically impossible. Because of the age of the pupils, the somewhat specialized character of the work which they should do, and the necessity of equipment, this phase of work imperatively demands departmental or specialized teach-

ing. In these grades the requirements of manual arts subjects are well understood. For boys, a shop supplied with tools for wood-working, a few lathes, a forge and some of the common implements of industrial work are needed. The expense of equipment at the start is considerable, and as yet discourages some communities from introducing the subject into their schools. For girls, a separate room is always necessary, wherein cooking, dressmaking and other forms of domestic activities may be carried on as a part of the program of manual arts work. Hitherto, where work of the above character has been introduced, lack of time on the part of the pupils has been the chief impediment to obtaining satisfactory results. Usually, from one and one-half to two hours per week of shop work have been allotted to each boy and girl in the seventh, eighth and ninth grades. While such an arrangement gives some effective training, it is insufficient to provide the practical experience demanded by the supporters of manual arts work.

For a long time manual arts or manual training for both boys and girls suffered from over-formulation and undue detachment from the practical affairs of life, and too often consisted of exercises, designed to develop definite forms of skill or knowledge, rather than of practical examples coming from the home or school environment. The cooking assumed an artificial character, and produced but little influence on home conditions. Wood and iron working, following a system of carefully graded exercises, formulated in obedience to a logical theory of the subject, shed little light on the industrial environment, and contributed insufficiently to the promotion of manual experience and capacity. Latterly, the views on the subject have been revised with the result that, where separate shops or rooms are found in charge of progressive teachers, a much wider and more satisfactory form of manual arts work has come into vogue. The projects or useful exercises undertaken, whether in sewing, cooking or shop work, have a more practical character, and are designed, from their actual accomplishment and resulting significance in utility, beauty, or both, to develop and reinforce ideas of workmanship, æsthetic appreciation and industrial standards. The controlling end of this manual arts work is

liberal education, through experience and growth in learning and expressing those activities which call for a combination of bodily skill and mental exertion.

Vocational outlook is incidentally acquired inasmuch as vocational appreciation and ideals are promoted. If a number of boys make in a workshop individual articles of wood which have significance for play, utility or decoration, some of these boys may obtain from such work a bent toward the wood-working industries; for them a by-product will be the vocational appreciation or ideal. Many others of the boys will enter commercial or other callings unrelated to the wood-working trades: but they will always have a deeper insight into these forms of industry, owing to their temporary participation therein, — an insight which will at least render them better consumers, and, perhaps, citizens with higher standards of appreciation.

The manual arts work now in vogue assumes many forms. Besides the making of small articles of wood and possibly of metal, projects in printing, the repairing of shoes, the dismounting and reassembling of machines, the making of appliances for use in farming, the painting of home interiors, the repairing of locks, the doing of various small jobs of plumbing, the making and setting up of playground apparatus, the building of boats and the construction of scientific apparatus, have a place in the boys' work. In all these and many other directions the modern manual arts work finds expression, and enriches the experience of the children who come under its influence. For girls, an equally widening field is found in activities pertaining to the household, — activities which illumine and interpret home-making possibilities, and give an appreciation of what may be done for economy, harmony and permanent utility.

While, as has been said, the controlling motive in the manual arts work is the giving of a liberal education, and while this takes its chief form in the building of interesting and significant experience, the subject of manual arts, as at present conceived, does not subordinate the more formal or drill features; rather, it promotes these by relating them to the larger projects. Specific kinds of knowledge, taste and skill may be reached by isolating, from the larger masses of work dealt with, special



aspects, which, when they are once intimately associated with the child's interests, are taken up with active enjoyment. It has become clear that exercises of a formal and definite sort in drawing and arithmetic, as well as problems demanding close application of logical methods, will be approached with interest and zeal when they are intimately connected with the larger and more clearly significant activities of life.

3. Following a well-developed tradition in American education, which requires that everything offered in the elementary schools shall be compulsory for all, educators have generally chosen to make manual training obligatory wherever introduced. Since many other subjects have in recent years been incorporated into the elementary school program, there has resulted a serious congestion in the courses of study, — a congestion which is at times relieved by a wholesale throwing over of so-called fads. At the present there is a definite movement in the direction of a differentiation of courses, which, while requiring of all pupils the essential subjects, will permit a flexibility of program in respect to studies added in recent years to "enrich" the work of the school. Under these circumstances, manual arts as a general subject will assume an important place, because it will be possible to make it a more satisfactory study for those children who have considerable interest or taste in this direction. It may be doubtful if work for children under fourteen years of age will ever be made more than incidentally vocational, since the motives for liberal education will control; but it is quite apparent that a developed form of manual arts for those who desire it, and who probably will not proceed to the high school, may be made an important introduction to the practical activities of wage-earning life. When such work is supplemented by a proper amount of vocational information or guidance from the teacher, the results will have a valuable bearing on the choice of occupation.

4. As a part of the movement towards more extensive utilization of school facilities, the manual training equipment must receive its share of attention. In many places the rooms, benches and kitchens in the schools are used for summer classes, and for groups of children who wish to work through the later

hours of the afternoon. Thus opportunities are offered to those electing to take advantage of the manual training equipment for additional experience, practice and training in manual arts which the limited period of the school program does not afford. A more complete study of this subject will be made.

#### IX. — AFTER-TRAINING OF TEACHERS.

It is generally conceded that if a school system is to be improved, means should be found for a continuation of the training of teachers during their active service. The professional course at the outset is so short, and the success of the student work therein so dependent on its being vitalized by teaching experience, that without some means whereby further professional development may be deliberately brought about, teachers are likely to allow their work to fall into dull routine.

Many agencies, some voluntary and some publicly provided, exist for this after-training. Most important at the present time is undoubtedly the service of the superintendent of schools. What is commonly characterized as constructive supervision, as opposed to mere inspection, constitutes a most effective means of developing professional capacity in teachers.

The active superintendent works for this end mainly through conferences, lectures and reading circles, and by encouraging systematic co-operation of teachers in particular fields of work. Some superintendents, by enlisting the services of a number of their teachers in the making of courses of study and in devising other means of educational betterment, are able to keep them in intimate touch with contemporary educational development. In rural areas superintendents have the advantage of dealing with a small number of teachers, but are under the disadvantage of being able to bring these teachers together only infrequently. The absence of training in the superintendent himself sometimes explains his inability to exercise constructive supervision. It has happened in recent years in a number of instances that the man elected to supervise the schools of a town has had his experience and training mainly in the field of high school education; as a consequence, he proves quite unable to give much assistance to elementary school teachers.

Under these circumstances, other agencies must be called into play.

A second important agency for after-training is the special supervisor. Special supervisors, each serving a group of schools, are now generally employed in connection with the teaching of certain studies, especially drawing and manual arts. They are of much assistance in subjects like those above named wherein the teachers possess little or no special training. By inspection of work, conferences, and sometimes by the maintenance of actual classes for the instruction of teachers, these supervisors accomplish important results. Except in physical training, music, drawing and the manual arts, supervisors are not common.

Outside of large cities, the teachers' institute has long existed as a means of after-training. It is customary in Massachusetts to provide an institute for a number of towns, at the request of a superintendent or some local body of teachers. It is seldom that an institute is held for two consecutive years in the same place. The institute session customarily lasts but one day, and the attempt is made to meet the needs of various classes of teachers by dividing into sections, — usually one for high school teachers, one for those in the upper grades and one for those in the primary schools. If numbers justify, a separate section may be organized for those teaching in distinctively rural schools. For instructors the institute relies to some extent on the agents of the State Board, but more commonly on special lecturers temporarily borrowed from the colleges or normal school or public school service. These institutes appear to be well conducted, but they fall far short of being a satisfactory means for advancing the professional development of the younger teachers in rural schools. At best their work must be fragmentary. It naturally tends to be "inspirational" rather than constructive. Teachers are rarely able to make preparation for the institute session.

There are also voluntary associations, some of them on a county basis, formed by teachers and holding annual meetings, which accomplish such results as may be expected from large assemblies. These conferences may bring together several hundred, or a thousand, or more teachers. A part of the program

is necessarily of a general nature, usually consisting of one or more addresses intended to be inspirational. These associations derive but little of their support from State funds; their chief cost to the community is the one day of absence from school duties which is involved.

Many other voluntary organizations for professional development are found in the State. Some of them are specialized in particular fields, and, as such, materially aid in the development of professional capacity in those fields.

Two of the State normal schools seek to encourage professional training in ways that are interesting and valuable. The Normal School at North Adams maintains short winter courses which are open to teachers in service. Since a long winter vacation is rendered necessary in this part of the State by the severity of the climate these short courses furnish a useful opportunity for the active teacher to pursue for some weeks serious professional study under favorable conditions.

At the State Normal School at Hyannis a summer school is maintained, which is patronized partly by teachers and partly by superintendents. An arrangement has been made whereby attendance for a number of summers on the part of those not already normal school graduates entitles such students to a diploma of graduation. These forms of extension work by the normal schools serve a useful purpose in after-training inasmuch as they afford opportunities for prolonged application to particular departments of study, and also by reason of the thoroughly professional atmosphere which soon develops in such a group of mature students.

At Harvard University is held a large summer school, with a varied program, adapted to all kinds of teachers, but designed especially for those working in high schools or in a supervisory capacity.

A further development of the means of professional training for those in service is desirable in Massachusetts. The entire subject needs investigation, but certain fundamental principles seem well established. An ideal system of after-training ought to exhibit the following features:—

1. The teachers of the State should maintain a system of reading circles or other groups for co-operative professional

improvement. Where possible, these groups should be composed of teachers engaged in a particular class of work; such for example, as the conduct of rural schools, the teaching of one or more branches of science in high schools, or supervision. In order to make these reading circles effective, Massachusetts could well imitate the practice of certain other States, Ohio and Indiana, for example, where State organizations exist for the purpose of selecting and distributing books for the reading circles.

2. There should be an annual meeting of teachers for a period of at least five or six days, during which part of the program might be based on the reading accomplished during the year, and a portion might be devoted to other educational themes. An institute of this character should be held during a vacation season, — probably during the summer months. A sufficiently large gathering should be secured to make it economically profitable to conduct a variety of sectional meetings, each adapted to a particular professional need. These gatherings might be held at the normal schools or colleges of the State in conjunction with summer schools. The ten normal schools afford abundant opportunities for assemblies of this sort, and many of the instructors in the normal school faculties are well qualified to carry on sectional work at such meetings. The summer work at Harvard and elsewhere would be available. An annual week of reunion of the kind here described, early in July or late in August, would provide a means of professional training far superior to any now existing. Coupled with reading circle work, and deliberately designed to systematize and reinforce it, these gatherings would result in a definite organization of effort, so that from year to year their effects would be cumulative. It would perhaps not be necessary for any individual teacher to attend every annual meeting, but it might well be the ambition of the superintendents and others responsible for their work to see that every teacher should, at not infrequent intervals, give from one to two weeks per year to this after-training. It might be expected that improved capacity on the part of the teacher would result in an increase of his compensation sufficient to justify his expenditure in attending the meetings.

## X. — LOCAL ADMINISTRATION AND SUPERVISION.

In legislative provisions for local supervision and administration Massachusetts stands high among the States. Under the law, every town must have a superintendent, or be part of a union having a superintendent. Superintendents are selected by the school committees, and not by popular election, as is the practice in many States. In unions of towns which receive State aid the superintendent must hold a certificate issued, after examination, by the Board. In progressive towns and cities a well-defined division of functions between the superintendent and the school committees generally exists, the result of which is to make the superintendent's position truly professional, and favorable to the development of expert qualifications. In many cases the tenure of the superintendent is still unsatisfactory; even the abler among them often have no security of position nor full opportunity to exercise their functions.

Notwithstanding the excellence of the machinery, there still exist many weaknesses in its operation. The first arises from the relative scarcity of men who have had professional training for school administration. Few men choose to take up teaching as a career, and at the present time few of these procure for themselves such adequate preparation as is demanded and sought in other professions. Several factors contribute to the reluctance of men to make school administration a profession. The comparatively low compensation is one, but only one. An excellent provision of the Massachusetts laws on supervision is that fixing a minimum salary in towns aided by the Commonwealth. To this salary the Commonwealth contributes generously. Superficially considered, the minimum salary seems fairly satisfactory; but in view of the social and professional demands made upon the superintendent, and in view of certain personal qualities which he should have, it seems clear that the salary is not always sufficient to attract an adequate number of men of the right type. In many towns the superintendent is obliged to pay a considerable portion of his salary for travelling expenses. Another explanation of the scarcity of men of the desired qualities for the

work lies in an insecurity of tenure, such as characterizes few other professions. The superintendent of schools is to an unusual extent exposed to criticism of a personal and local character which may handicap his activity and deprive him of his post and sometimes of his professional reputation, — his chief asset.

An obvious remedy for the situation here described is as far as possible to encourage men who by training and experience have definitely prepared themselves for responsible school administration. Progressive towns and cities already do this, and are constantly putting a premium on the capable leader.

Indirectly, the Board of Education can assist in this matter by inducing school committees to maintain higher standards in the selection of superintendents, and to give more careful recognition to the professional aspects of their work. Much can be done by superintendents themselves in improving standards. Those who are active, progressive and untiring in their efforts towards professional improvement inevitably raise the standard of the demands made upon all superintendents; higher standards will in turn inevitably react on salaries.

When it is recalled that only within recent years has expert supervision been made obligatory in many towns in Massachusetts, it is hardly surprising that there is even yet often found a complete failure on the part of the local school authorities to recognize the functions of the superintendent. Lay supervision of education has long been a tradition in Massachusetts. There are members of school committees who have so long and carefully devoted themselves to fostering the educational interests of the community that they have become, in their way, fair educational experts. Nevertheless, it is to be regretted that some excellent school committees fail to give the superintendent his due place as their executive officer. This is partly owing to a failure to recognize the desirable division of functions between school committee and superintendent. Experience demonstrates that the best educational results are found where the school committee confines itself to legislation and oversight, to selecting the superintendent and finally to approving or disapproving his recommendations and actions. If

it goes beyond this, and seeks itself to exercise such expert functions as the selection of teachers, the designation of text-books, the formation of courses of study, the keeping of records and the making of reports, the usual result is that the superintendent fails to rise to the full responsibilities of his position, even in the matter of supervision; on the other hand, these special duties are sure to be imperfectly performed if advantage is not taken of the expert knowledge of the superintendent.

Sound educational administration demands that, wherever a community desires excellent schools, it should impose large responsibilities on its salaried executive officers, holding them to strict accountability for results. It is unfortunate that there are still many towns in Massachusetts in which the superintendent does not nominate teachers, and in which he has little voice in the designation of text-books. There are still some towns in which he has no acquaintance with the accounts kept by the school committee, so that he does not know the state of the town finances in their relation to the schools.

Some of the above deficiencies, it is believed, should be corrected by legislation, especially in view of the fact that correct practice is found in the majority of the towns and cities of the Commonwealth. It is proposed to submit to the Legislature drafts of two acts relating to superintendency unions, one of which is to promote the permanency of such unions, and the other to secure to the superintendent a more prolonged tenure.

Furthermore, an act should be passed defining more specifically the functions of the superintendent along the lines indicated above. Such an act may be largely nullified by failure on the part of the school committee to recognize the true responsibilities of its expert officer; but it is believed that ignorance of correct administrative principles, and not intent, is responsible for the present attitude of those school committees which do not properly utilize the superintendent as an important executive and supervisory officer.

The Board will submit to the forthcoming Legislature the following proposed acts: —



## AN ACT TO PROMOTE THE PERMANENCE OF SUPERINTENDENCY UNIONS.

*Be it enacted, etc., as follows:*

SECTION 1. Section forty-three of chapter forty-two of the Revised Laws is hereby amended by striking out, in lines eight and nine, the words "may, and after the first day of July, in the year nineteen hundred and two"; by inserting after the word "schools", in line ten, the words: The school committees of such towns shall be a joint committee which, for the purposes of such union, shall be agents of each town therein; by striking out, in line eleven, the words "for three years after the date of its formation" and "a"; and by inserting after the word "union", in line twelve, the words: and the consent of the board of education to such dissolution,—so as to read as follows:—*Section 43.* The school committees of two or more towns, the valuation of each of which is less than two million five hundred thousand dollars, and the aggregate number of schools in all of which is not more than fifty, nor less than twenty-five, and the school committees of four or more towns, the valuation of each of which does not exceed two million five hundred thousand dollars, without reference to the minimum limit in the aggregate number of schools aforesaid, shall form a union for the purpose of employing a superintendent of schools. The school committees of such towns shall be a joint committee which, for the purposes of such union, shall be the agents of each town therein. Such union shall not be dissolved except by vote of a majority of the towns constituting the union, and the consent of the board of education to such dissolution, nor shall it be dissolved for the reason that the valuation of any one of the towns shall have so increased as to exceed two million five hundred thousand dollars, nor for the reason that the number of schools shall have increased beyond fifty, or in a union of less than four towns, shall have decreased below twenty-five.

SECTION 2. This act shall take effect upon its passage.

## AN ACT RELATIVE TO THE TENURE OF OFFICE FOR SUPERINTENDENTS OF UNIONS.

*Be it enacted, etc., as follows:*

SECTION 1. Section forty-four of chapter forty-two of the Revised Laws is hereby amended by striking out in the first three lines the words "The school committees of such towns shall be a joint committee which, for the purposes of such union, shall be the agents of each town therein"; by striking out, in line seven, the words "choose by ballot", and inserting in place thereof the word:—employ; and by adding at the end of the section the words:—Such superintendent of schools shall be employed for a term of three years, and his salary

shall not be reduced during such term. Failure of a superintendent during his term of office to receive a certificate as provided by chapter two hundred and fifteen of the acts of nineteen hundred and four, upon the expiration of a prior certificate, shall thereby vacate his office. He may be removed from office by a two-thirds vote of the full membership of the joint committee, and with the consent of the board of education to such dismissal,—so as to read as follows:—*Section 44.* The joint committee shall annually, in April, meet at a day and place agreed upon by the chairman of the committees of the several towns comprising the union, and shall organize by the choice of a chairman and secretary. They shall employ a superintendent of schools, determine the relative amount of service to be performed by him in each town, fix his salary, apportion the amount thereof to be paid by the several towns, and certify it to each town treasurer. Such superintendent of schools shall be employed for a term of three years, and his salary shall not be reduced during such term. Failure of a superintendent during his term of office to receive a certificate as provided by chapter two hundred and fifteen of the acts of nineteen hundred and four, upon the expiration of a prior certificate, shall thereby vacate his office. He may be removed from office by a two-thirds vote of the full membership of the joint committee, and with the consent of the board of education to such dismissal.

SECTION 2. This act shall take effect upon its passage.

#### AN ACT TO DEFINE THE DUTIES AND POWERS OF SUPERINTENDENTS OF SCHOOLS.

*Be it enacted, etc., as follows:*

SECTION 1. The superintendent of schools, employed in accordance with section forty, section forty-one or section forty-four of chapter forty-two of the Revised Laws, shall, under the direction of the school committee, have the care and supervision of the public schools, and shall be the executive officer of the school committee. He shall assist the school committee in keeping its records and accounts, and in making such reports as are required by law.

SECTION 2. The superintendent of schools shall recommend teachers to the school committee, and also recommend text-books and courses of study to the school committee.

SECTION 3. This act shall take effect upon its passage.

#### XI. — REPORTS OF THE BOARD.

From the beginning the Board has issued reports intended to keep the Commonwealth informed as to the state of public education, and which should from time to time suggest improve-

ments in the schools and systems of administration. Statistical information of various kinds has been presented with comparative statements showing the inhabitants of one town or city what was being done for education in other places. These reports, developed and improved from time to time, have formed an important agency in disseminating knowledge regarding the schools of the State, and in pointing the way for further improvements.

Under the law, the Board of Education prescribes the form of returns that shall be submitted by each school committee. These returns have grown more and more elaborate, as educational classifications with reference to which the public desired information have become more extended. The reports made by the school committees are summarized and printed for the use of the Legislature, and are later published and distributed throughout the State. The annual report of the Board now constitutes a considerable volume, and its statistics, although unsatisfactory in some particulars, provide the public with valuable information as to expenditures, school attendance, number and salaries of teachers, and other facts of importance.

Within the last few years the plan upon which records and reports by public school agencies should be made has become more definitely determined. School reports, national, State and local, have received severe criticism. From a number of quarters have come a variety of suggestions which should lead to important improvements in the near future. It is no reflection upon the work of those who have been responsible for the making of State reports in Massachusetts to say that the time has arrived when in many important particulars the form and content of these reports should be changed. At this time it may be appropriate to point out a few of the particulars in which it seems desirable that there should be modifications in reports of the Board: —

1. The keeping of records, both fiscal and educational, by local authorities, and the making of satisfactory reports is to an increasing extent a function requiring expert knowledge. Under the law, the school committee is, and must continue to

be, finally responsible for the records and reports; nevertheless, every school committee in the State has the services of a superintendent of schools who should be an expert in these matters and be utilized as such. In the larger cities the school committees have imposed upon the superintendents responsibility for the keeping of satisfactory records and the making of reports. One consequence of this is that many city reports in this State are extremely satisfactory, as examples of statistical presentation. In many smaller towns some member of the school committee still keeps such accounts as are kept, and, on the basis of these and of the registers of the schools, formulates reports to the Board; under these circumstances there is little uniformity, and errors unavoidably creep in. In view of the practice in the better-supervised towns and cities, the time has arrived when the superintendent of schools should be required to participate in the keeping of all forms of local educational record and in the making of reports to the State Board. His professional training should qualify him for this work, and each school committee should employ his expert services in this as well as in other directions.

2. Some means must be found to make the fiscal year for the school accounts coincide with the school year, if statistics are to be of much significance. As is well known, the fiscal year is not uniform among Massachusetts towns and cities. In some cases it ends, as does the State fiscal year, on November 30; in other cases on December 31; while in many towns the fiscal year extends from one spring town meeting to another. Nowhere does the fiscal year coincide with the school year, which is, of necessity, from July 1 to June 30. The consequence of this is that fairly accurate returns of receipts and expenditures may be reported on the one hand; and fairly accurate statistics of the number, qualifications and salaries of teachers, of attendance on the schools and the like, on the other; but it becomes impossible to bring all this information together for the purposes of various interpretations that should be made. For example, no entirely satisfactory statement for comparative purposes can be formulated of the per capita expenditure in the schools of Massachusetts.

It is impracticable to compare the total outlay for teachers' salaries in a given town, or in the State, with the number of teachers required and the average salary paid to each. A common complaint with regard to educational statistics is that they present an indefinite and long array of facts, without concentration or interpretation. If the public is to be enabled to use published statistics to advantage, these must be interpreted and condensed in a great variety of ways; and, most important of all, the connection between outlay and return should be shown. This is exactly the weakest point in the statistical presentations to which we are now confined in Massachusetts. No intelligible comparison can be made between expense, on the one hand, and the number of children in the schools, the number of teachers and the results of educational work, on the other.

It must probably be accepted that the town and city fiscal years cannot be made to coincide with the school year. The line of progress seems to lie in the direction of the development of such a form of school accounting that, at the end of any month, June, for example, the total expenditures up to that time from the first of the preceding July can be obtained in classified form. The important fact for educational statistics is the financial outlay for the school year. While many school committees at the present time keep few or no accounts, it would seem to be possible to devise a system of warrants drawn or bills approved which would enable the committee or the school superintendent to report to the State Board the actual expenditure. With this as a basis, many kinds of comparative statements could be formulated, which would be of significance to educators, taxpayers and all interested citizens.

3. The changes suggested above would have another important effect. Under present usage, practically a year and a half must elapse between the recording of a given body of facts and the reporting of them in printed form to the Legislature. The Board is compelled to send out blank forms for the collection of statistical data some time after the close of the spring town meeting; on these blanks are reported the financial facts of the preceding fiscal year and the educational facts of the school year closing on the thirtieth day of the preceding June.

These returns reach the office of the Board of Education during the summer months, and during the autumn are compiled for presentation to the Legislature at its meeting in January. The consequence is that school statistics are at least a year and a half old before they are presented to the public.

If it were possible to have the financial accounts of the schools made up for the twelve months corresponding to the school year, these facts could be tabulated and reported soon after the close of the school year on June 30. Prompt action should make it possible for these returns to reach the Board during July and August in time for compilation and presentation in the following January, thus reducing by one year the time that now elapses between the making of records in the schools and the publication of the same.

The amended procedure described above is that usually followed in other States where the fiscal year coincides with the school year.

4. There should be an extension of the field covered by the reports. Since Massachusetts has an annual session of its Legislature, it is desirable that the Board should present a summary of the financial and educational facts at each session in some such form as at the present time. In addition to this, careful studies should be made and published from time to time as to important matters which are open to scientific analysis and description. The results of these studies would appear in special reports at intervals of a few years. Among the topics which should be considered are the following:—

(a) *The Salaries of Teachers.*—In the annual reports now published the average salaries for teachers are reported. In many respects the statements on these subjects are unsatisfactory and do not show the actual situation. The averages always embrace the salaries of principals; there seems to be uncertainty in interpreting the requirements of the Board as to the basis on which the average monthly salary shall be calculated; and no account is taken of special teachers and those who occupy temporary positions. Furthermore, these averages in no way express significant facts regarding the relationship between the salary of the teacher and his training and experi-

ence and the character of his work. A thoroughly satisfactory analysis of the salary situation in Massachusetts would involve considerable effort. A report on this subject would necessarily be elaborate. It is not only important to know what are the salaries for different classes of teachers, but the salaries should be correlated with such important facts as age, training, size of class, variety of experience and present professional study, thus giving the public information which might be put to practical use in planning salary schedules. Such a study as this the State might well afford to make at intervals of five years.

(b) *The Results of School Work, as tested by the Advancement of Children.* — There are few satisfactory standards for measuring the efficiency of our educational system. Partly because of the influence of voluntary and private schools, it has become customary to apply as the first test of the efficiency of a school its ability to attract pupils; consequently, measures of gross attendance, of net attendance and of regularity of attendance are much relied upon. Within very recent years the retardation of children in the public schools has received attention. As already stated, it has long been known that the number of children promoted has not compared satisfactorily with the total number entering given grades or types of school. These studies of retardation, at first crude and sometimes misleading, have finally resulted in a statistical method of their own. It would now be possible, given sufficient time and assistance, to prepare for the entire State an exhaustive statistical presentation of the facts of school attendance and promotions in such a way as to correlate facts of health, movement from one community to another, scholarship, nationality, rural and city life and other relevant considerations. At the present time we have no satisfactory analysis of the general situation as regards the connections between regular attendance, health and like conditions, and the prevailing courses of study as these affect the ability of pupils to make systematic progress in school.

If, for one year, the principals and superintendents, on the basis of carefully prearranged plans for the making of records

and reports, could undertake a study on the subject, the results would be of great value. Such a study need not be made oftener than once in five or eight years.

(c) *Analysis of School Expenditures.* — A classification of school expenditures is published annually in the present report. It is impossible, however, to make from it satisfactory deductions as to the relation of expenditure and educational return. There should be prepared for each community a comparative showing as to its expenditures for education, as contrasted with those for other purposes. As far as possible, the connection between outlay for a given item, such as teachers' salaries, text-books, or care of school buildings should be correlated with some estimate of returns actually derived from these expenditures. It is of special importance that statistics of expenditure should be interpreted, for columns of figures showing outlay are likely to be meaningless to the average citizen, who is unable to check them up so as to determine the cases where too little or too much has been spent.

(d) *Medical Inspection.* — Medical inspection of school children is now obligatory throughout the State. The results of this work should at stated intervals be the subject of careful returns and statistical interpretations. The time has probably arrived when the State should prepare a special and comprehensive report covering rural as well as city areas, and setting forth the best procedure and the results to be expected from this supplemental form of education.

(e) *Transportation and Consolidation.* — A study of the transportation of school children and of the consolidation of schools, together with a statistical analysis of these subjects, is needed.

(f) *Time Allotment.* — Many fragmentary studies already exist, bearing on the matter of distribution of time among the various types of studies. Outside of large cities, this subject still needs investigation, in order to provide a satisfactory basis for the formulation of courses of study and the development of supervision of a scientific nature. This topic is also a fit subject for statistical interpretation.

5. Subjects that admit of statistical study and presentation



are the following: the actual effectiveness of various types of school studies; the comparative cost of different forms of industrial education; and the efficiency of teachers as affected by training and variety of experience. In the more economical use of school buildings much can be accomplished by accurate reporting on the cost of different types of heating apparatus, the annual outlay required for the maintenance of different types of school buildings, and the possibility of uses of such buildings for other than school purposes. All these are examples of topics that may be investigated by methods that would yield the largest returns in measurable facts and well-grounded conclusions.

6. Further development of adequate statistics requires, among other things, a uniformity of records. The State now furnishes registers to all schools. If, as was suggested above, an attempt is to be made to secure uniform fiscal reporting, the State should also provide the necessary blank books for financial returns. Educators have for some time realized the necessity of keeping a cumulative record card for each pupil in addition to the school register. Only by some such provision as this will it be possible to obtain facts exhibiting the progress of pupils and the results of their school work over a series of years. Already steps have been taken to develop such a cumulative record card in schools which fall more or less under the supervision of the State Board. Both economy and efficiency require that the State should furnish cards, of the form adopted, to the schools.

The prosecution of the suggested statistical studies would demand that at the beginning of the school year directions should be distributed, to be accompanied by suitable blanks whereon the special records could be made. Work of this sort properly instituted would result finally in adequate and satisfactory reporting.

7. Under the law, the Board publishes, and should continue to publish, for the use of the Legislature an annual compilation of important statistics and recommendations. These should be of such form and character as also to serve the citizens of the State. It is probable that, from the standpoint of true publicity, the annual publication of a detailed report should be

supplemented by a variety of special bulletins, in which certain salient facts, recommendations and problems are presented succinctly. It has been the practice of the Board in the past to issue from time to time such bulletins. They circulate more widely, and are more apt to be read by those interested than the report itself. A bulletin that presents in a practical manner facts, deductions, recommendations and even statistics, will be reproduced largely by the newspapers, and through them reach a wide circle of readers.

## XII. — DEFECTIVES AND DELINQUENTS.

A large number of defectives and delinquents in Massachusetts who require education combined with more or less custodial care are in charge of private organizations. These schools, though sometimes aided by the Commonwealth, receive consideration from the Board only indirectly. The State and county institutions for training delinquent and truant children have their own boards of managers and individual organizations.

A large and undeveloped field of educational effort still exists in the case of many defective and unmanageable children who should not be put under custodial care at great expense to the State, but in whose training the home and specialized schools should be brought into more intimate co-operation. It is a well-recognized fact that many of the pupils who attend the public schools without profit from year to year are ill-adapted to the curriculum as it is organized for normal children. Some large cities now maintain special classes for those defective in hearing or sight, for those so crippled as to make their presence in the ordinary schoolroom a source of trouble, and for tubercular children. It is often suggested that special classes should be formed for those whose speech is defective. Special or disciplinary classes for those who do not adapt themselves to the control of the ordinary schoolroom have been the subjects of experiment in a number of cities, and where rightly managed are almost invariably attended with good results. The studies of retardation recently made by the Sage Foundation indicate the importance of this entire subject.

It would be advisable for the Board to make an inquiry as

to the training, by means of special classes, of youths who are manifestly not adapted to ordinary schoolroom procedure. Medical inspection should assist in the early discovery of those likely to profit by some kind of special educational treatment. We already possess excellent examples of what may be done in the special education of various types of physically defective children. We are still far from having solved to an equivalent degree the problem of those difficult to manage or who are becoming incorrigible. It is doubtful if a boy or girl should be committed to an institution as long as the home is capable of being brought into co-operation with the school for the purpose of maintaining proper control of the individual.

Probably there is needed in American cities and large villages the type of day truant school which is now found in many English urban centers. Home and school here co-operate, and the child is removed as completely as possible from the influences of the street. A typical day truant school of this kind undertakes to be responsible for the care of the child from ten to twelve hours out of the twenty-four, and by means of attendance officers makes certain that the child on leaving school shall proceed directly to his home. In such a day truant school the time is divided between study, industrial training and supervised play. It is essential that the child should be kept from idleness, and as far as possible purposefully employed either in play or work that his physical energies may be fully exercised. Such a school as this, to which children habitually difficult to manage could be committed for definite minimum terms and on probation, would materially aid in improving the discipline of the regular schools and in removing from the streets children whose influence on others is bad.

In large schools, the formation of an ungraded class, intermediate between the ordinary class and the day truant school, would afford a means whereby, under a competent teacher, retarded children, those who are hard to manage and those finding difficulty in maintaining their places in the class, owing to physical defect, could receive individual treatment. Some progressive superintendents have such classes in operation, but there should be further development of them.

## XIII. — COMPULSORY ATTENDANCE.

The extension of public school education has long carried with it an obligation on the part of the community to compel the attendance of the children of that small minority of parents who, by reason of selfishness, indifference or poverty, neglect the larger interests of their offspring. Massachusetts has been a pioneer in progressive legislation relating to compulsory attendance. On the whole, the enforcement of the laws may be said to be fairly satisfactory; but violations frequently occur, and in many communities the provisions for the enforcement of such laws are inadequate. While it is not the province of the Board to enforce legislation relating to compulsory attendance, truancy and child labor, it is unquestionably wise and proper for it to supervise the execution of laws relating to these subjects. There are good reasons why the Board should ultimately employ a special agent to investigate the operation of attendance laws, and to assist in their enforcement. Especial importance attaches to the following considerations: —

1. In the less thickly settled communities the enforcement of compulsory attendance legislation is left to school committees, sometimes with and sometimes without the assistance of a town constable or other person serving in the capacity of truant officer. School committeemen are subject to various forms of local influence, and frequently find themselves in an embarrassing position as to the enforcement of the law. This is especially true if the case is one of such obstinacy that prosecution seems necessary. The result is that in some and perhaps a large number of instances no one makes it his definite business to bring about compliance with the law in the case of children detained at home for insufficient reasons.

2. It happens not infrequently that older boys still within the compulsory attendance age make trouble in school for both the teacher and superintendent. It is the theory of compulsory attendance that a child either should be in the regular school, or, if undesirable there, should be committed to a truant school. The process of commitment, however, frequently involves the superintendent and the school committee in petty enmities

and many troublesome experiences. Here again it is often easier to overlook violation of the law than to enforce the law.

3. In more populous centers school attendance officers are greatly handicapped by the absence of reliable information regarding the children on whom school attendance is obligatory. An annual census is required in the towns and cities of Massachusetts, but this census is not taken in such a way as to furnish information which attendance officers can use. Students of school administration are agreed that in more populous areas some form of permanent registration of all children who come under the school attendance law (and it is to be remembered, that in some cases this extends to the age of eighteen in Massachusetts) should be provided. In connection with the taking of the annual school census it would be possible to provide a card record giving age, parentage and other data of importance, which card record could after comparison with the registration of the school, become the basis on which attendance officers could investigate illegal absence.

4. Probably of more serious consequence educationally than the relatively small number of cases of truancy which occur is the large amount of irregular attendance for which there is no sufficient reason. It is now impracticable to measure this, because no one assembles at the close of each school year the attendance statistics of all children, whether in public or private schools or at work. Until this is done, no satisfactory means can be found for determining the exact loss to school children through preventable irregular attendance.

For these and other reasons it may in time prove desirable for the Board to extend its work in such a way as to provide some inspection or supervision of the enforcement of compulsory attendance laws. At least one of the agents of the Board has in the past given some attention to this matter, especially in cases where local authorities were indifferent. The effect has been most salutary. A State agent carries a large weight of authority when he goes into a community with the view of co-operating in the effort to deal with recalcitrant parents and of inducing school committees and superintendents to be more active in enforcing the law. Furthermore, it would

be the duty of a State agent employed for this particular purpose, to develop a system of registration which should be carried out by attendance officers. It has been sufficiently demonstrated that to keep up this registration would not greatly increase the responsibility of these officers, and it would, on the other hand, materially strengthen their position in enforcing attendance. What is needed is an inventory and record of the children in the community who are legally required to attend school. In co-operation with the teachers, it would be a simple matter to record on individual cards at the close of each year the details of attendance, whether in parochial or public schools. In this way, interested individuals would always be able to locate all children of the community with whom the State is concerned, and it would be possible also from time to time to measure the amount of school attendance.

Connecticut has a satisfactory mechanism of just this sort. The State attendance officers are called upon to deal with difficult cases, the enforcement of which would prove a burden on school committees and superintendents. In the near future it would seem desirable for Massachusetts to establish some similar procedure.

#### XIV. — IMPROVEMENTS IN SCHOOL BUILDINGS AND GROUNDS.

Great progress has been made in recent years in this Commonwealth and elsewhere in standards of construction, in types of architecture, in heating, ventilating and lighting arrangements, in the sanitary conditions, and in the finish, decoration and equipment of school buildings. From year to year a better adaptation of these buildings for the purposes for which they are intended is secured.

This advance is due to local pride, to legislation and to the education of public opinion. Many communities now insist that their school buildings shall be models both in appearance and utility. The Commonwealth puts an obligation upon cities and towns to safeguard children by proper sanitation, heating, lighting and ventilating, and by provisions against dangers from fire. The District Police, who are especially charged with the enforcement of these laws, have gathered in their rooms

at the State House a large amount of material which contains valuable suggestions for committees in charge of the erection of school buildings. The Board of Education can co-operate, to the great advantage of the schools, with the District Police and with boards of health in securing compliance with the statutes. Such combined effort is especially needed in some of the sparsely settled and remote districts.

The Board can serve education by collecting at its offices, plans, books and articles which deal with the best types of school buildings, with methods and kinds of decoration, and with furniture and equipment for study and recitation rooms, laboratories and special departments, such as manual and household arts, drawing and vocational instruction and by making the same available to the public. From time to time bulletins on particular points as to buildings, equipment and grounds might be issued. These should be of such form and character as to command attention as well as to convey information. The knowledge thus put at the command of the public and of school committees would promote both economy and efficiency in the construction of school buildings. Standards and ideals for school buildings could in this way be set before the people of the Commonwealth. It is clearly within the scope of the authority of the Board to point out to communities, especially in State-aided areas, the defects in school buildings and grounds, and thus to encourage provisions for the better housing of school children and for more attractive surroundings of school-houses.

#### XV. — TEACHERS' EMPLOYMENT BUREAU.

The Board is now required by law to receive applications for employment filed by teachers, and to submit such information as it possesses to superintendents and others seeking to fill vacancies. This function of the Board has as yet received little attention, since the Board has neither the expert service nor the equipment to carry it on adequately. Undoubtedly this is a public service which the Board can perform more economically and more effectively than either private or other public agencies.

Each normal school serves to some extent as a bureau of information as to its own graduates. Superintendents and

school committees have learned to apply, and to apply early, to normal schools if they would employ the most capable of the young teachers. It is possible for the normal schools thus to aid their graduates for some years after graduation; but naturally they soon lose touch with these as teachers, and are unable to vouch satisfactorily for their professional qualities. Many of the colleges in Massachusetts also assist their students by supplying information regarding teaching vacancies. Those seeking teachers have acquired the habit of consulting college officers, particularly when teachers of special qualifications are required. The private agencies in Massachusetts make it their business to bring together teachers and those seeking them. For this they are paid by the teacher.

It is highly desirable that superintendents and others concerned in the employment of teachers should develop the habit of seeking suitable candidates, rather than that applicants should seek positions. The more progressive school boards and superintendents now pay little attention to miscellaneous applications for positions, but when they foresee a vacancy address themselves to the task of finding the most desirable person to fill it. If this method is to be encouraged, it is necessary that means be provided whereby these progressive employers of teachers may have at their disposal reliable information regarding candidates. The Board now to a limited extent furnishes lists of superintendents and assembles information regarding industrial school teachers. It is necessary to expand this function considerably, in view of pressing needs. There can be no doubt that by enlarging its work as a bureau of information the Board could become more useful to the State, by developing close relations with the school authorities in the matter of affording information on available candidates for teaching positions.

The expansion of this work would be along lines somewhat different from those pursued in teachers' agencies. The officers of the Board would maintain a bureau of information regarding vacant positions. This information would be placed freely at the disposal of all interested. The Board would not, through its agents, personally canvass the situations, nor would it in any



way urge the selection of a particular candidate. It would, when notified of a vacancy, submit the names and copies of the credentials of two or more promising applicants. The local employing body would be entirely free to make its own selection from the list submitted by the Board or otherwise.

To carry on such work adequately the Board would require a special clerk, who could in a short time arrange an office routine, whereby the more mechanical phases of the work could be expeditiously carried on. It would be necessary to have a well-defined system of assembling and duplicating the credentials of those seeking engagements. It is estimated that the expense of carrying on such a department as this would be \$2,500 per year.

An effort could be made in this connection to standardize more satisfactorily the periods of engagement of teachers in this State. The unfortunate practice has developed of inducing teachers to shift from one post to another whenever during the year a vacancy occurs. If an opening becomes available in a town, the superintendent or school committee seeks a teacher who is probably already employed in some other town, and thus creates a vacancy perhaps within a few months after the commencement of the year's work. The vacancy so caused may be filled by another teacher taken from regular employment, with the result that a serious break occurs in the work of the year in several schools. It is unfortunate that teachers cannot be engaged in such a way that their service may not be interrupted during the school year except for sickness or other unavoidable cause. This result could be brought about through the co-operation of superintendents with an agency concerned with the employment of teachers.

#### XVI. — STAFF OF THE BOARD.

For the successful execution of the duties assigned to it, the Board requires a larger force of employees than it is now able to employ. By statute the Board is limited to the sum of \$40,000 for salaries of its entire executive and clerical staff, including agents, assistants and clerks.

To aid in the establishment of, and to supervise, the agri-

cultural schools which will probably be organized, an agent especially qualified to deal with this form of education is needed. The Board should also have a business agent. For ten normal schools, and for the proper up-keep of many valuable buildings, including normal schools proper, dormitories and buildings used for practice teaching purposes, it is responsible for the expenditure of nearly \$400,000 annually. Until the Board possesses an agent who can give expert assistance to the principals of these schools in planning for repairs, in expending money for that purpose, in purchasing coal and other supplies and in providing for systematic accounting, it will be difficult to combine efficiency and economy in their management in the way which the public service demands. In order that it may be in a position to procure agents for these purposes, the Board will ask the Legislature to amend that portion of section 3 of chapter 457 of the Acts of 1909 which limits its expenditure for all forms of salaries and clerical service to \$40,000. The Legislature will be asked for a special appropriation of \$5,900 in addition to the \$40,000 authorized by the present statute, as called for in the Board's budget estimate for the current year. It is proposed to introduce the following bill and resolve:—

AN ACT RELATIVE TO THE APPOINTEES OF THE BOARD OF EDUCATION.

*Be it enacted, etc., as follows:—*

SECTION 1. Chapter four hundred and fifty-seven of the acts of the year nineteen hundred and nine, as amended by chapter two hundred and eighty-two of the acts of the year nineteen hundred and ten, is hereby amended by striking out section three and inserting in place thereof the following:—*Section 3.* The board shall appoint a commissioner of education whose term of office shall be five years, and may fix his salary at such sum as the governor and council shall approve. Said commissioner may at any time be removed from office by a vote of six members of the board. He shall exercise all the powers and be subject to all the duties now conferred or imposed by law on the secretary of the board of education. He shall be the executive officer of the board, shall have supervision of all educational work supported in whole or in part by the commonwealth, and shall report thereon to the board. He shall be allowed for travelling expenses a sum not exceeding fifteen hundred dollars per annum. The board shall also appoint two deputy commissioners, at equal salaries, one of whom

shall be especially qualified to deal with industrial education. The powers, duties, salaries and terms of office of said deputy commissioners shall be such as may be established from time to time by the board, but the board may, by a vote of six members thereof, remove from office at any time either of said deputy commissioners. The board may be allowed for rent, salaries of the commissioner, the deputies, agents, assistants and clerical service and for travelling and other necessary expenses of the commissioner, the deputies, agents and of the board, incurred in the performance of their official duties, such sum as shall be appropriated by the general court annually, payable out of the treasury of the commonwealth.

SECTION 2. This act shall take effect upon its passage.

RESOLVE IN FAVOR OF THE BOARD OF EDUCATION.

*Resolved*, That there be allowed and paid out of the treasury of the commonwealth to the board of education the sum of five thousand nine hundred dollars, to be applied to the salary account of said board.

XVII. — CODIFICATION OF THE SCHOOL LAWS.

The last codification of the school laws of Massachusetts was completed in 1902, with the general revision of the statutes of Massachusetts. Since then a large number of amendments to existing statutes have been made and a considerable number of new acts added. The result is an unfortunate confusion with respect to a number of important features. It is recommended that the Board undertake during 1911 a codification of the laws relating to education, with a view to submission to the General Court of 1912.

The above observations and recommendations are respectfully submitted.

DAVID SNEDDEN,  
*Commissioner of Education.*



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PART II.

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DETAILED REPORT

OF

WORK OF THE BOARD.

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## PART II. — DETAILED REPORT OF WORK OF THE BOARD.

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This material, mainly statistical, covers the following subjects: —

- I. — Summary of Statistics of Public Schools.
- II. — Normal School Data.
- III. — Teachers' Institutes.
- IV. — Kindergartens.
- V. — Vacation Schools.
- VI. — State Aid for High Schools.
- VII. — High School Tuition Reimbursements.
- VIII. — Certification of Superintendents of Schools.
- IX. — List of Superintendents of Schools.
- X. — Table of Superintendency Unions.
- XI. — Massachusetts School Fund.
- XII. — Report of Treasurer of Board of Education.
- XIII. — Independent Industrial Schools.
- XIV. — Medical Inspection in the Public Schools.
- XV. — County Training Schools.
- Abstract of School Returns.

I. — SUMMARY OF STATISTICS FOR 1909-1910.<sup>1</sup>*I. Number of Public Day Schools.*

1. Number of towns, 321; cities, 33. Total, 354.

All have made the annual returns required by law.

2. Number of public schools based on the single class room  
as the unit of comparison, . . . . . 11,848  
Increase from the preceding year, . . . . . 171

*II. Average Number of Months the Public Schools have been kept.*

1. Average number of months the public schools have been  
kept during the year, . . . . . 9 $\frac{1}{2}$   
Increase, . . . . . 0
2. Average number of months the high schools have been  
kept during the year, . . . . . 9 $\frac{1}{2}$   
Decrease, . . . . .  $\frac{5}{20}$

*III. School Census Data.*

1. Number of persons in the State Sept. 1, 1909, between  
the ages of seven and fourteen years: males, 201,562;  
females, 199,614; total, . . . . . 401,176  
Increase in the total, . . . . . 7,735
2. Number of persons in the State Sept. 1, 1909, between  
the ages of five and fifteen years: males, 280,561;  
females, 277,948; total, . . . . . 558,509  
Increase in the total, . . . . . 9,949
3. Number of illiterate minors in the State Sept. 1, 1909,  
over fourteen years of age: males, 3,671; females,  
2,941; total, . . . . . 6,612  
Decrease in the total, . . . . . 1,140

*IV. Public School Enrollment and Attendance Data.<sup>2</sup>*

1. Number of pupils between seven and fourteen years  
of age attending the public schools during the school  
year, . . . . . 337,599  
Decrease, . . . . . 716
2. Number of different pupils between five and fifteen  
years of age attending the public schools during the  
school year, . . . . . 471,232  
Increase, . . . . . 2,521
3. Number of pupils under five years of age attending  
the public schools during the school year, . . . . . 10,532  
Decrease, . . . . . 1,055

<sup>1</sup> Attention is called to note on page preceding Abstract of School Returns.<sup>2</sup> The enrollment and attendance data are for a school year ending practically in June, 1909.



4. Number of pupils over fifteen years of age attending the public schools during the school year, . . .	54,105
Increase, . . . . .	3,959
5. Total enrollment of pupils of all ages in the public schools during the school year, . . . . .	535,869
Increase, . . . . .	5,425
6. Average membership of pupils in all the public schools during the school year, . . . . .	479,069
Increase, . . . . .	5,693
7. Average attendance in all the public schools during the school year, . . . . .	444,090
Increase, . . . . .	7,531
8. Percentage of attendance based on the average membership, . . . . .	.93
9. Percentage of attendance based on the total enrollment, . . . . .	.83
10. Number graduated from grammar schools during the school year, . . . . .	25,581
Increase, . . . . .	303

*V. Public School Teachers and their Wages.*

1. Number of teachers required in the public schools during the year: men, 1,375; women, 13,946; total, . . .	15,321
Increase, . . . . .	228
2. Number of teachers in the public schools who have graduated from college: in high schools, 1,725; in the elementary schools, 504; total, . . . . .	2,229
Increase, . . . . .	61
3. Number of teachers who have graduated from normal schools, . . . . .	8,043
Increase, . . . . .	319
4. Average wages of male teachers per month in the public schools, . . . . .	\$152 96
Increase, . . . . .	\$1 57
5. Average wages of female teachers per month in the public schools, . . . . .	\$61 82
Increase, . . . . .	\$1 14

*VI. Public High Schools.*

1. Number of public high schools, . . . . .	270
Increase, . . . . .	0
2. Number of teachers in the high schools, . . . . .	2,305
Increase, . . . . .	126
3. Number of pupils in the high schools, . . . . .	59,068
Increase, . . . . .	5,110

4. Number of pupils admitted to the freshman class, . . . . .	21,775
Increase, . . . . .	1,435
5. Number of graduates from high schools, . . . . .	7,495
Decrease, . . . . .	311
6. Expenditures for high school support, . . . . .	\$3,224,403 45
Increase, . . . . .	\$186,151 85

*VII. Public Evening Schools.*

1. Number of cities and towns having public evening schools, . . . . .	69
Increase, . . . . .	7
2. Number of evening schools, . . . . .	317
Increase, . . . . .	1
3. Number of teachers, . . . . .	1,976
Increase, . . . . .	5
4. Number of different pupils in attendance: males, 41,557; females, 21,568; total, . . . . .	63,125
Decrease in the total, . . . . .	1,023
5. Average attendance, . . . . .	34,170
Increase, . . . . .	6,084
6. Expended upon evening schools, . . . . .	\$359,486 17
Increase, . . . . .	\$12,614 07

*VIII. Public Kindergartens.*

1. Number of cities and towns having public kindergartens, . . . . .	34
Decrease, . . . . .	4
2. Number of public kindergartens, . . . . .	291
Decrease, . . . . .	19
3. Number of teachers, . . . . .	525
Decrease, . . . . .	8
4. Number of pupils, . . . . .	16,521
Decrease, . . . . .	869
5. Cost of public kindergartens, . . . . .	\$328,555 53
Increase, . . . . .	\$24 88

*IX. Cost of the Public Schools for Support.*

A. Total expenditure for the support of the public schools, . . . . .	\$16,012,722 47
Increase, . . . . .	\$692,636 50
This expenditure is distributed among the following classes indicated in the statutory definition of support:—	
1. Teachers' wages, . . . . .	\$11,600,630 81
Increase, . . . . .	\$428,443 80
2. Conveyance of pupils, . . . . .	\$310,422 15
Increase, . . . . .	\$18,208 82

3. Fuel and care of school premises,	\$2,064,392 16
Increase, . . . . .	\$21,127 24
4. School committees, clerks, truant officers, etc., . . . . .	\$208,290 38
Increase. . . . .	\$3,803 03
5. Superintendents of schools, . . . . .	\$380,337 57
Increase, . . . . .	\$5,078 48
6. Text-books and supplies, . . . . .	\$892,875 93
Increase, . . . . .	\$31,892 60
7. School sundries, . . . . .	\$555,773 47
Increase, . . . . .	\$184,082 53
<i>B. Amount included in the total expenditure for support as given under IX., A, but derived from other sources than local taxation or its equivalent, such as aid from the State, income from local funds, voluntary contributions, etc., . . . . .</i>	
	\$650,564 38
Decrease, . . . . .	\$5,453 91
<i>C. Amount raised by local taxation and expended for the support of public schools, being the total expenditure for such support as given under IX., A, diminished by contributions for such support from other sources than local taxation as given under IX., B, \$15,362,158 09</i>	
Increase, . . . . .	\$698,090 41
<i>X. Cost of the Public Schools for Buildings.</i>	
<i>A. Total expenditure for buildings for the public schools, \$4,123,022 96</i>	
Increase, . . . . .	\$65,222 49
This expenditure is distributed as follows:—	
1. New schoolhouses, . . . . .	\$3,002,190 13
Increase, . . . . .	\$301,055 33
2. Alterations and permanent improvements, . . . . .	\$643,397 75
Decrease, . . . . .	\$175,932 07
3. Ordinary repairs, . . . . .	\$477,435 08
Decrease, . . . . .	\$59,900 77
<i>B. Amount included in the total expenditure for buildings for the public schools as given under X., A, but derived from other sources than local taxation or its equivalent, . . . . .</i>	
	\$18,072 39
Decrease, . . . . .	\$10,396 53
<i>C. Amount raised by local taxation and expended for buildings, being the total expenditure for buildings as given under X., A, diminished by contributions for buildings from other sources than local taxation as given under X., B, . . . . .</i>	
	\$4,104,950 57
Increase, . . . . .	\$75,619 02

*XI. Total Cost of the Public Schools for Support and Buildings.*

1. Total expenditure for *support* and *buildings* for the public schools, that is, for all public school purposes, \$20,135,745 43  
     Increase, . . . . . \$757,858 99
2. Amount included in the total expenditure for *support* and *buildings* as given under IX., A, and X., A, but derived from other sources than local taxation or its equivalent, . . . . . \$668,636 77  
     Decrease, . . . . . \$15,850 44
3. Amount raised by *local taxation* and expended for *support* and *buildings*, being the total expenditure for these purposes as given under IX., A, and X., A, diminished by contributions thereto from other sources than local taxation or its equivalent, as given under IX., B, and X., B, . . . . . \$19,467,108 66  
     Increase, . . . . . \$773,709 43

*XII. Cost of the Public Schools per Child.*

1. Average *taxation* cost of the public schools for *support* (IX., C) for each child in the State between the ages of five and fifteen years (III., 2), . . . . . \$27 50  
     Increase, . . . . . \$0 77
2. Average *taxation* cost of the public schools for *support* (IX., C) for each child in the average membership of the public schools (IV., 6), . . . . . \$32 06  
     Increase, . . . . . \$1 08
3. Average *taxation* cost of the public schools for *support* and *buildings*, that is, for all school purposes (XI., 3), for each child in the State between the ages of five and fifteen years (III., 2), . . . . . \$34 85  
     Increase, . . . . . \$0 77
4. Average *taxation* cost of the public schools for *support* and *buildings*, that is, for all school purposes (XI., 3), for each child in the average membership of the public schools (IV., 6), . . . . . \$40 63  
     Increase, . . . . . \$1 15
5. Average expenditure on account of the public schools for *support* and *buildings*, including *voluntary contributions* as well as money raised by *taxation* (XI., 1), for each child in the State between five and fifteen years of age (III., 2), . . . . . \$36 05  
     Increase, . . . . . \$0 73

6. Average expenditure on account of public schools for support and buildings, including <i>voluntary contributions</i> as well as money raised by <i>taxation</i> (XI., 1), for each child in the average membership of the public schools (IV., 6), . . . . .	\$42 03
Increase, . . . . .	\$1 10

*XIII. Percentage of State Valuation expended for Public School Purposes.*

1. Percentage of the total State valuation (May 1, 1909) raised by <i>local taxation</i> and expended for the <i>support</i> of the public schools (IX., C), . . . . .	.0041 $\frac{1}{100}$ or \$4.12 per \$1,000
Increase, . . . . .	.000 $\frac{7}{100}$ or \$0.04 per \$1,000
2. Percentage of the total State valuation (May 1, 1909) raised by <i>local taxation</i> and expended on the public schools for <i>support</i> and <i>buildings</i> (XI., 3), . . . . .	.0052 $\frac{2}{100}$ or \$5.22 per \$1,000
Increase, . . . . .	.0001 $\frac{9}{100}$ or \$0.19 per \$1,000

*XIV. Vacation Schools, 1909.*

1. Number of vacation schools supported at public expense,	27
2. Number of cities and towns having vacation schools, .	10
3. Number of teachers, . . . . .	122
4. Number of pupils, . . . . .	6,032
5. Average number of months schools were kept, . .	1 $\frac{1}{2}$
6. Cost of vacation schools, . . . . .	\$7,043 70

*XV. Academies and Private Schools.*

1. Number of incorporated academies, . . . . .	44
Increase, . . . . .	1
2. Whole number of pupils in the academies for the year, .	6,604
Increase, . . . . .	154
3. Amount of tuition paid in the academies during the year, . . . . .	\$655,836 58
Decrease, . . . . .	\$47,852 42
4. Number of private schools returned, . . . . .	308
Decrease, . . . . .	4
5. Whole number of pupils in the private schools during the year, . . . . .	96,464
Increase, . . . . .	6,479
6. Amount of tuition paid in private schools (much of it estimated), . . . . .	\$913,761 00
Increase, . . . . .	\$244,782 78

## II. — STATE NORMAL SCHOOLS.

*Table showing admissions and attendance for 1910, with other normal school data.*

NORMAL SCHOOLS.	TEACHERS IN NORMAL SCHOOLS.		TEACHERS IN MODEL AND FRAC- TICE SCHOOLS.		ADMITTED TO —		NUMBER OF DIFFERENT STUDENTS FOR 1909-1910.			ATTENDANCE DEC. 1, 1910.			Number of gradu- ates in 1910.	Different students from the begin- ning.	Graduates from the beginning.
	Men.	Women.	Men.	Women.	Entering class.	Higher or special classes.	Men.	Women.	Totals.	Men.	Women.	Totals.			
Bridgewater, . . . . .	8	10	1	12	136	14	44	251	295	41	289	330	94	6,164	4,112
Fitchburg, . . . . .	4	11	3	20	106	20	-	231	231	7	237	244	74	1,080	547
Framingham, . . . . .	7	11	-	11	151	-	-	269	269	-	297	297	79	5,396	2,951
Hyannis, . . . . .	3	6	1	5	33	10	8	31	39 <sup>1</sup>	5	60	65	18	461	264
Lowell, . . . . .	5	7	1	26	76	3	-	175	175	-	165	165	76	1,189	731
North Adams, . . . . .	4	5	1	23	67	-	-	145	145	-	117	117 <sup>2</sup>	54	837	437
Salem, . . . . .	8	10	1	14	122	13	6	248	254	7	237	244	85	5,949	3,117
Westfield, . . . . .	6	2	1	13	97	10	1	180	181	-	180	180	69	5,209	2,224
Worcester, . . . . .	6	7	-	2	77	2	11	143	154	11	182	193	39	2,220	1,311
Normal Art (Boston), . . . . .	16	5	-	-	81	-	57	285	342	57	283	311	76	3,755	1,558
Totals, . . . . .	67	74	9	126	946	72	127	1,958	2,085	128	2,047	2,146	664	32,257	17,282

<sup>1</sup> In addition, summer session students, 230.

<sup>2</sup> In addition, winter session students, 16.

## III. — TEACHERS' INSTITUTES.

The statistics of the regular institutes for 1910 are as follows: —

WHERE HELD.	Date.	Number of towns represented.	Number of members.	Number of exercises.
Dighton, . . . . .	Feb. 25	10	135	9
Newburyport, . . . . .	April 22	12	211	14
Huntington, . . . . .	April 27	7	65	13
North Easton, . . . . .	April 29	9	170	13
Methuen, . . . . .	May 2	8	124	13
Rockland, . . . . .	May 4	16	239	13
Wrentham, . . . . .	Oct. 21	11	209	14
Charlemont, . . . . .	Oct. 28	10	75	14
Hyannis, . . . . .	Nov. 4	16	213	14
Maynard, . . . . .	Nov. 7	6	96	14
Lee, . . . . .	Nov. 11	7	82	14
Wellesley, . . . . .	Nov. 14	5	328	18
Brimfield, . . . . .	Nov. 16	6	79	14
Gardner, . . . . .	Nov. 18	9	149	14
Totals (14), . . . . .	-	132	2,175	191

## IV. — KINDERGARTENS.

*Table showing the number and location of public kindergartens kept during the school year ending June, 1909, and cost of their maintenance.*

CITIES AND TOWNS.	Number of public kindergartens.	Number of teachers.	Number of different pupils.	Minimum age at which pupils are admitted.	Cost.
				Yrs. Mos.	
Andover, . . . . .	3	3	105	3 6	\$1,613 93
Attleborough, . . . . .	2	4	64	3 6	1,463 18
Boston, . . . . .	110	217	7,211	3 6	146,408 84
Braintree, . . . . .	4	4	99	4 -	2,000 00
Bridgewater, . . . . .	1	2	40	4 -	1,500 00
Brookline, . . . . .	11	21	478	3 6	15,524 43
Cambridge, . . . . .	16	30	844	3 6	22,179 82
Chicopee, . . . . .	2	2	72	3 -	980 00
Dedham, . . . . .	4	8	152	4 -	2,400 00

*Number and location of public kindergartens, etc. — Concluded.*

CITIES AND TOWNS.	Number of public kindergar- tens.	Number of teachers.	Number of different pupils.	Minimum age at which pupils are admitted.	Cost.
				Yrs. Mos.	
Easton, . . . . .	1	2	51	3 -	\$725 00
Fall River, . . . . .	3	6	198	3 -	3,894 79
Falmouth, . . . . .	1	1	27	4 -	600 00
Framingham, . . . . .	2	3	70	4 -	1,875 00
Greenfield, . . . . .	1	2	63	3 6	1,064 00
Haverhill, . . . . .	8	9	279	4 -	4,800 00
Holyoke, . . . . .	10	20	603	4 -	10,871 62
Hopedale, . . . . .	1	1	27	4 -	890 00
Lee, . . . . .	1	1	42	3 -	600 00
Lowell, . . . . .	12	23	717	3 6	15,820 20
Manchester, . . . . .	1	2	53	4 -	900 00
Marblehead, . . . . .	2	4	100	4 -	1,235 69
Milton, . . . . .	4	7	189	4 -	5,000 00
Newton, . . . . .	14	29	747	4 -	18,182 82
North Adams, . . . . .	5	10	213	4 -	4,000 00
Northampton, . . . . .	4	4	132	4 -	1,800 00
Pittsfield, . . . . .	3	6	194	4 -	2,600 00
Salem, . . . . .	6	10	299	4 -	4,413 53
Somerville, . . . . .	4	8	422	4 -	4,063 44
Springfield, . . . . .	15	30	1,258	4 -	17,068 01
Waltham, . . . . .	4	8	216	4 6	3,350 00
Westfield, . . . . .	4	8	66	4 6	2,000 00
West Springfield, . . . . .	3	2	155	4 6	1,271 63
Winchester, . . . . .	2	4	70	4 -	1,812 92
Worcester, . . . . .	27	34	1,265	5 -	25,646 68
Totals (34), . . . . .	291	525	16,521	3 to 5 yrs.	\$328,555 53



## V. — VACATION SCHOOLS, 1909.

CITIES AND TOWNS.	NUMBER OF —			Average length of schooling.	Total expenditure for support of schools.
	Schools.	Teachers.	Pupils.		
Athol, . . . . .	1	4	56	Mos. Days. — 15	\$42 00
Attleborough, . . . . .	2	4	215	1 10	283 63
Brookline, . . . . .	3	11	961	1 10	1,941 45
Cambridge, . . . . .	6	28	1,521	— 24	1,799 35
Lawrence, . . . . .	5	26	1,049	1 —	868 21
Manchester, . . . . .	2	2	50	1 5	120 00
Medford, . . . . .	1	6	250	1 10	256 96
Milford, . . . . .	1	3	103	1 10	165 33
Newton, . . . . .	2	21	756	1 —	966 77
Worcester, . . . . .	4	17	1,071	1 5	600 00
Totals (10), . . . . .	27	122	6,032	1 4	\$7,043 70

## VI. — STATE AID FOR HIGH SCHOOLS.

Towns containing 500 families are required to maintain high schools. Other towns may maintain such schools, and, if approved by the Board of Education, may receive State aid to the amount of \$500.

The following towns, having complied with the conditions of the law, were entitled to receive the \$500 grant in 1910, with the exception of Brewster, which received only \$250 for a period covering half a school year.

Twenty-six towns received the grant in 1903, 34 in 1904, 36 in 1905, 37 in 1906, 40 in 1907, 44 in 1908 and 44 in 1909.

Ashby,	Douglas,	New Marlborough,
Ashfield,	Edgartown,	New Salem,
Ashland,	Essex,	Northborough,
Avon,	Granby,	Northfield,
Bernardston,	Hadley,	Norwell,
Bolton,	Huntington,	Orleans,
Brewster,	Littleton,	Pembroke,
Charlemont,	Lunenburg,	Petersham,
Charlton,	Medfield,	Plainville,
Chester,	Mendon,	Rutland,
Conway,	Millis,	Sandwich,

Sheffield,	Southborough,	West Boylston,
Shelburne,	Stow,	West Newbury,
Shirley,	Sudbury,	Wilmington,
Shrewsbury,	Tisbury,	Wrentham. — 45

### VII. — HIGH SCHOOL TUITION REIMBURSEMENT.

Towns having less than 500 families, and not maintaining a high school, must make provision for high school instruction in other towns. They may be reimbursed by the State for one half or for the whole of the cost of such instruction. The high schools to which children are sent must be approved by the Board of Education.

Under the provisions of the law, 99 towns, sending 1,177 pupils, were reimbursed wholly or in part by the State. The increase in number over last year is 1 town and 47 pupils. The amount distributed by the State for their tuition was \$42,-759.03. The total obligation of the State for high school aid was \$65,009.03.

Only 6 towns have no children in high schools. The average membership of all the elementary schools in these towns is 344.

*Table showing high school tuition reimbursements under section 3, chapter 42, Revised Laws, as amended by chapter 433, Acts of 1902.*

[NOTE. — Towns the names of which are italicized were reimbursed by the State for half tuition expenditures only.]

TOWNS.	Number of pupils.	High schools attended.	Rate per year.	Amounts.
Acushnet, . . .	16	Fairhaven, . . . . .	\$75 00	\$1,143 75
“ . . . .	1	New Bedford, . . . . .	75 00	75 00
Alford, . . . .	2	Great Barrington (Searles), . . .	54 00	108 00
Auburn, . . . .	15	Worcester (South), . . . . .	60 00	379 50
“ . . . .	1	Worcester (English), . . . . .	60 00	30 00
“ . . . .	1	Leicester (Leicester Academy), . .	40 00	10 00
Becket, . . . .	2	Springfield (Commercial), . . . .	100 00	200 00
“ . . . .	1	Westfield, . . . . .	50 00	50 00
“ . . . .	1	Lee, . . . . .	50 00	27 50
“ . . . .	8	Chester, . . . . .	58 00	407 45
Bedford, . . . .	34	Concord, . . . . .	48 00	720 00
Bellingham, . .	11	Milford, . . . . .	38 00	201 00

*High school tuition reimbursements, etc. — Continued.*

TOWNS.	Number of pupils.	High schools attended.	Rate per year.	Amounts.
Bellingham, . . .	13	Franklin, . . . . .	\$30 75	\$178 87
Berkley, . . . .	1	Bridgewater, . . . . .	50 00	25 00
" . . . .	10	Taunton, . . . . .	60 00	546 40
" . . . .	4	Fall River, . . . . .	60 00	228 00
Berlin, . . . .	13	Hudson, . . . . .	40 00	508 00
" . . . .	18	Clinton, . . . . .	40 00	677 00
Blandford, . . .	2	Springfield (Technical), . . . .	100 00	170 00
" . . . .	1	Springfield (Central), . . . .	100 00	80 00
" . . . .	3	Westfield, . . . . .	50 00	125 00
" . . . .	2	Chester, . . . . .	58 00	116 00
" . . . .	3	Huntington, . . . . .	45 00	100 13
Boxborough, . .	7	Concord, . . . . .	48 00	336 00
" . . . .	7	Littleton, . . . . .	36 00	216 00
Boylston, . . .	2	Worcester (Classical), . . . .	60 00	120 00
" . . . .	5	Worcester (English), . . . .	60 00	270 00
" . . . .	1	Worcester (South), . . . .	60 00	60 00
" . . . .	3	Clinton, . . . . .	40 00	120 00
" . . . .	2	Northborough, . . . . .	30 00	60 00
Buckland, . . .	40	Shelburne Falls (Arms Academy), .	36 00	1,338 00
" . . . .	4	Ashfield, . . . . .	36 00	144 00
Carlisle, . . . .	2	Concord, . . . . .	48 00	96 00
Cheshire, . . . .	32	Adams, . . . . .	30 00	910 00
Chesterfield, . .	2	Springfield (Central), . . . .	100 00	200 00
" . . . .	1	Northampton, . . . . .	50 00	50 00
Clarksburg, . . .	15	North Adams, . . . . .	45 00	570 00
Colrain, . . . .	1	North Adams, . . . . .	45 00	45 00
" . . . .	4	Greenfield, . . . . .	30 00	90 00
" . . . .	23	Shelburne Falls (Arms Academy), .	36 00	708 00
Cummington, . .	1	Springfield (Technical), . . . .	100 00	100 00
" . . . .	4	Northampton, . . . . .	50 00	175 00
" . . . .	1	Dalton, . . . . .	36 00	36 00
" . . . .	10	Ashfield, . . . . .	36 00	328 50
Dana, . . . .	2	New Salem, . . . . .	40 00	62 00
" . . . .	4	Petersham, . . . . .	45 00	157 60
" . . . .	3	Athol, . . . . .	36 00	82 00
Dunstable, . . .	2	Lowell, . . . . .	60 00	120 00
Eastham, . . . .	12	Orleans, . . . . .	32 00	356 80

*High school tuition reimbursements, etc. — Continued.*

Towns.	Number of pupils.	High schools attended.	Rate per year.	Amounts.
East Longmeadow, . . .	11	Springfield (Central), . . .	\$100 00	\$965 00
“ “ . . .	8	Springfield (Technical), . . .	100 00	725 00
“ “ . . .	11	Springfield (Commercial), . . .	100 00	1,060 00
Egremont, . . .	2	Great Barrington (Searles), . . .	54 00	36 00
Enfield, . . .	22	Athol, . . .	36 00	691 20
“ . . .	1	New Salem, . . .	40 00	20 00
“ . . .	1	Springfield (Central), . . .	100 00	100 00
Erving, . . .	3	Orange, . . .	40 00	60 00
“ . . .	6	Montague (Turners Falls), . . .	30 00	90 00
“ . . .	9	Greenfield, . . .	30 00	127 75
Florida, . . .	1	North Adams, . . .	45 00	45 00
Freetown, . . .	11	Fall River, . . .	60 00	306 00
“ . . .	2	New Bedford, . . .	75 00	75 00
“ . . .	1	Taunton, . . .	60 00	30 00
Gay Head, . . .	1	New Bedford, . . .	75 00	75 00
Gill, . . .	2	Northfield, . . .	45 00	90 00
“ . . .	14	Montague (Turners Falls), . . .	30 00	388 50
Goshen, . . .	7	Ashfield, . . .	36 00	241 20
“ . . .	1	Williamsburg (Centre), . . .	26 00	26 00
Granville, . . .	1	Springfield (Technical), . . .	100 00	40 00
“ . . .	3	Westfield, . . .	50 00	125 00
“ . . .	1	Orange, . . .	40 00	40 00
Greenwich, . . .	1	Springfield (Technical), . . .	100 00	100 00
“ . . .	6	Athol, . . .	36 00	216 00
“ . . .	1	Palmer, . . .	35 00	35 00
“ . . .	2	New Salem, . . .	40 00	80 00
Halifax, . . .	1	Bridgewater, . . .	50 00	50 00
Hampden, . . .	6	Springfield (Technical), . . .	100 00	600 00
“ . . .	5	Springfield (Central), . . .	100 00	437 50
Hancock, . . .	3	Pittsfield, . . .	36 00	86 40
Hanson, . . .	21	Whitman, . . .	40 00	328 00
“ . . .	1	Abington, . . .	40 00	20 00
Hawley, . . .	2	Charlemont, . . .	45 00	75 00
Heath, . . .	2	Charlemont, . . .	45 00	90 00
Hinsdale, . . .	10	Dalton, . . .	36 00	326 70
“ . . .	4	Pittsfield, . . .	36 00	121 50
Hubbardston, . . .	5	Gardner, . . .	30 00	140 00

*High school tuition reimbursements, etc. — Continued.*

TOWNS.	Number of pupils.	High schools attended.	Rate per year.	Amounts.
Hubbardston, . . .	2	Barre, . . . . .	\$50 00	\$100 00
Lakeville, . . . .	13	Middleborough, . . . . .	55 00	557 50
“ . . . .	4	Taunton, . . . . .	60 00	133 20
Lanesborough, . . .	15	Pittsfield, . . . . .	36 00	504 00
Leverett, . . . .	4	Amherst, . . . . .	35 00	140 00
Longmeadow, . . .	14	Springfield (Central), . . . .	100 00	611 25
“ . . . .	13	Springfield (Technical), . . . .	100 00	490 00
“ . . . .	4	Springfield (Commercial), . . . .	100 00	200 00
Lynnfield, . . . .	16	Wakefield, . . . . .	50 00	335 50
“ . . . .	1	Peabody, . . . . .	45 00	22 50
Mashpee, . . . .	3	Barnstable (Cotuit), . . . . .	40 00	96 00
Middlefield, . . . .	1	Springfield (Central), . . . . .	100 00	100 00
Middleton, . . . .	20	Danvers, . . . . .	50 00	481 25
Monroe, . . . .	7	Charlemont, . . . . .	45 00	285 00
“ . . . .	1	North Adams, . . . . .	45 00	45 00
Monterey, . . . .	1	Great Barrington (Searles), . . . .	54 00	18 00
Montgomery, . . . .	1	Westfield, . . . . .	50 00	50 00
Mount Washington, .	2	Great Barrington (Searles), . . . .	54 00	108 00
New Braintree, . . .	5	Hardwick, . . . . .	40 00	180 00
“ “ . . . .	1	North Brookfield, . . . . .	40 00	40 00
Newbury, . . . .	8	Newburyport, . . . . .	$\left. \begin{array}{l} 12\ 00^1 \\ 15\ 00 \\ 12\ 00^1 \\ 15\ 00 \end{array} \right\}$	$\left. \begin{array}{l} 51\ 00 \\ 40\ 50^2 \end{array} \right\}$
“ . . . .	6	Newburyport, . . . . .		
Norfolk, . . . .	3	Boston (English), . . . . .	95 00	142 50
“ . . . .	4	Walpole, . . . . .	40 00	80 00
North Reading, . . .	43	Reading, . . . . .	50 00	2,083 75
Oakham, . . . .	7	Barre, . . . . .	50 00	335 00
Paxton, . . . .	5	Leicester (Leicester Academy), . . . .	40 00	196 00
“ . . . .	1	Worcester (Classical), . . . . .	60 00	45 00
“ . . . .	5	Worcester (English), . . . . .	60 00	225 00
Pelham, . . . .	8	Amherst, . . . . .	35 00	275 00
Peru, . . . .	1	Springfield (Central), . . . . .	100 00	100 00
“ . . . .	1	Pittsfield, . . . . .	36 00	36 00
Phillipston, . . . .	1	Templeton, . . . . .	40 00	40 00
“ . . . .	1	Petersham, . . . . .	45 00	32 77
“ . . . .	3	Athol, . . . . .	36 00	98 00
Plainfield, . . . .	2	Northampton, . . . . .	50 00	100 00
“ . . . .	4	Ashfield, . . . . .	36 00	144 00

<sup>1</sup> Foreign languages only.<sup>2</sup> 1908-09.

*High school tuition reimbursements, etc. — Continued.*

TOWNS.	Number of pupils.	High schools attended.	Rate per year.	Amounts.
Plympton, . . .	1	Whitman, . . . . .	\$40 00	\$40 00
" . . . .	2	Kingston, . . . . .	45 00	90 00
Prescott, . . .	2	Athol, . . . . .	36 00	51 00
" . . . .	3	New Salem, . . . . .	40 00	104 00
Raynham, . . .	4	Easton, . . . . .	40 00	46 25
" . . . .	1	Brockton, . . . . .	75 00	37 50
" . . . .	12	Taunton, . . . . .	60 00	331 50
Rehoboth, . . .	10	Taunton, . . . . .	60 00	285 00
" . . . .	1	Attleborough, . . . . .	48 75	20 00
" . . . .	2	Fall River, . . . . .	60 00	60 00
Richmond, . . .	4	Pittsfield, . . . . .	36 00	144 00
Rochester, . . .	4	Fairhaven, . . . . .	75 00	300 00
" . . . .	6	Wareham, . . . . .	45 00	270 00
" . . . .	1	Amherst, . . . . .	35 00	35 00
Rowe, . . . .	3	Charlemont, . . . . .	45 00	135 00
" . . . .	1	Concord, . . . . .	48 00	48 00
Rowley, . . . .	10	Newburyport, . . . . .	48 00	448 00
" . . . .	17	Ipswich, . . . . .	40 00	600 00
Royalston, . . .	4	Athol, . . . . .	36 00	115 20
" . . . .	1	Gardner, . . . . .	30 00	30 00
" . . . .	2	Winchendon, . . . . .	28 00	39 00
" . . . .	1	Amherst, . . . . .	35 00	35 00
" . . . .	5	Templeton, . . . . .	40 00	152 00
Russell, . . . .	4	Huntington, . . . . .	45 00	166 50
" . . . .	2	Westfield, . . . . .	50 00	70 00
Salisbury, . . .	12	Newburyport, . . . . .	{ 12 00 <sup>1</sup> 15 00 }	67 00
Savoy, . . . .	4	Adams, . . . . .	30 00	105 00
" . . . .	2	Charlemont, . . . . .	45 00	45 00
Seekonk, . . . .	7	Attleborough, . . . . .	48 75	164 38
" . . . .	3	Taunton, . . . . .	60 00	65 10
" . . . .	4	Fall River, . . . . .	60 00	90 00
Shutesbury, . . .	1	New Salem, . . . . .	40 00	40 00
Southampton, . .	14	Easthampton, . . . . .	45 00	555 00
" . . . .	2	Northampton, . . . . .	50 00	95 00
Southwick, . . .	17	Westfield, . . . . .	50 00	793 75
Sterling, . . . .	2	Worcester (English), . . . . .	60 00	60 00
Sturbridge, . . .	10	Southbridge, . . . . .	30 00	150 00

<sup>1</sup> Foreign languages only.

*High school tuition reimbursements, etc. — Concluded.*

TOWNS.	Number of pupils.	High schools attended.	Rate per year.	Amounts.
Sunderland, . . .	21	Amherst, . . . . .	\$35 00	\$721 00
" . . . .	2	Greenfield, . . . . .	30 00	60 00
Swansea, . . . .	28	Fall River, . . . . .	60 00	773 25
Tewksbury, . . . .	37	Lowell, . . . . .	60 00	1,030 00
Truro, . . . .	4	Provincetown, . . . . .	40 00	160 00
Tyngsborough, . . .	13	Lowell, . . . . .	60 00	760 00
Tyringham, . . . .	3	Lee, . . . . .	50 00	150 00
Warwick, . . . .	2	Northfield, . . . . .	45 00	90 00
" . . . .	5	Orange, . . . . .	40 00	148 00
Washington, . . . .	1	Chester, . . . . .	58 00	58 00
" . . . .	1	Pittsfield, . . . . .	36 00	36 00
Wendell, . . . .	7	Orange, . . . . .	40 00	252 00
" . . . .	1	New Salem, . . . . .	40 00	40 00
" . . . .	1	Haverhill, . . . . .	62 50	62 50
West Bridgewater, . .	1	Easton, . . . . .	40 00	20 00
West Brookfield, . .	1	Ware, . . . . .	40 00	20 00
" " . . . .	32	Warren, . . . . .	30 00	440 63
Westhampton, . . . .	4	Northampton, . . . . .	50 00	200 00 <sup>1</sup>
" . . . .	3	Easthampton, . . . . .	45 00	105 00 <sup>1</sup>
" . . . .	4	Northampton, . . . . .	50 00	200 00
" . . . .	3	Easthampton, . . . . .	45 00	97 50
West Stockbridge, . .	7	Pittsfield, . . . . .	36 00	252 00
" " . . . .	8	Great Barrington (Searles), . . . .	54 00	432 00
West Tisbury, . . . .	5	Tisbury (Vineyard Haven), . . . .	40 00	173 00
Whately, . . . .	4	Northampton, . . . . .	50 00	200 00
" . . . .	1	Greenfield, . . . . .	30 00	30 00
Wilbraham, . . . .	4	Springfield (Technical), . . . . .	100 00	200 00
" . . . .	2	Palmer, . . . . .	35 00	35 00
" . . . .	6	Ludlow, . . . . .	40 00	120 00
Williamsburg, . . . .	2	Northampton, . . . . .	50 00	50 00
Windsor, . . . .	3	Dalton, . . . . .	36 00	108 00
" . . . .	2	Adams, . . . . .	30 00	60 00
Worthington, . . . .	2	Springfield (Central), . . . . .	100 00	200 00
" . . . .	3	Northampton, . . . . .	50 00	150 00
Totals (99 towns), . .	1,177	75 schools, . . . . .	\$47 07	\$42,759 03

<sup>1</sup> 1908-09.

Towns having a valuation per pupil in *excess* of the State average (\$7,585):—

Boxford (Academy),	Hull,	Stockbridge (High),
Burlington,	Lincoln,	Tolland,
Chilmark,	Marion (Academy),	Topsfield (High),
Dover (High),	Mattapoissett,	Wenham,
Gosnold,	Nahant (High),	Weston (High).
Hamilton,	Oak Bluffs (High),	Westwood,
Harvard (High),	Sharon (High),	Yarmouth (High).—22
Hopedale (High),		

Towns that did *not avail* themselves of the law:—

Ashburnham (Academy),	Otis,
Brimfield (Academy),	Princeton (High),
Carver (High),	Sandisfield,
Deerfield (Academy),	Sherborn (Academy),
Hatfield (Academy),	Wales,
Holland,	Wellfleet (High),
Leyden,	Westminster (High).—15
New Ashford,	

#### VIII. — EXAMINATION FOR CERTIFICATES OF APPROVAL AS SUPERINTENDENTS.

The law making the approval of the Board of Education a condition of eligibility for service in a State-aided union was passed in 1904. Examinations have been held each year since, with the following results:—

Approved in 1904,	. . . . .	7
Approved in 1905,	. . . . .	14
Approved in 1906,	. . . . .	23
Approved in 1907,	. . . . .	15
Approved in 1908,	. . . . .	10
Approved in 1909,	. . . . .	21
Approved in 1910,	. . . . .	12
Total,	. . . . .	102

Of these, 46 have entered the service and are now at work.



IX. — LISTS OF SUPERINTENDENTS, ALPHABETICALLY ARRANGED, WITH THEIR SUPERINTENDENCIES.

SUPERINTENDENTS.	Salaries.	Addresses.	Superintendencies.
Adams, Charles F., . . .	\$1,600	Spencer, . . .	Spencer.
Aldrich, George I., . . .	4,000	Brookline, . . .	Brookline.
Allen, H. L., . . .	1,650	Dalton, . . .	Cheshire, Dalton.
Allison, J. Francis, . . .	1,800	Great Barrington, . .	Great Barrington.
Anthony, John C., . . .	2,200	Melrose, . . .	Melrose.
Armstrong, George P., . .	2,650	Belmont, . . .	Bedford, Belmont, Burlington.
Atwell, F. G., . . .	1,700	Hopedale, . . .	Bellingham, Hopedale, Mendon.
Averill, Andrew P., . . .	1,600	Edgartown, . . .	Chilmark, Edgartown, Gay Head, Oak Bluffs, Tisbury, West Tisbury.
Bagnall, Francis A., . . .	2,500	Adams, . . .	Adams.
Barbour, Albert L., . . .	2,700	Quincy, . . .	Quincy.
Bates, Charles H., . . .	2,100	Middleborough, . .	Middleborough.
Bemis, George M., . . .	1,800	Plainville, . . .	Norton, Plainville, Wrentham.
Benedict, Frank H., . . .	1,600	Cochituate, . . .	Dover, Sudbury, Wayland.
Blodgett, Samuel F., . . .	2,200	South Framingham, . .	Framingham.
Blount, Henry G., <sup>1</sup> . . .	1,450	South Hamilton, . .	Hamilton.
Bowman, Mortimer H., . .	1,500	Hatfield, . . .	Bernardston, Hadley, Hatfield.
Brick, Francis S., . . .	1,700	Maynard, . . .	Boxborough, Maynard, Stow.
Bridgham, E. G., . . .	1,500	Lenox, . . .	Lenox.
Brittain, Horace L., . . .	2,500	Hyde Park, . . .	Hyde Park.
Brockway, Clarence E., . .	1,800	West Springfield, . .	West Springfield.
Brooks, John D., . . .	1,600	Natick, . . .	Natick.
Brooks, Stratton D., . . .	6,000	Boston, . . .	Boston.
Burke, J. E., Ass't, . . .	4,500	Boston, . . .	Boston.
Carfrey, J. H., . . .	2,000	Wakefield, . . .	Lynnfield, Wakefield.
Caswell, Almorin O., . . .	1,800	Marblehead, . . .	Marblehead.
Chace, Seth Howard, . . .	2,100	97 18th Street, Lowell,	Dracut, North Reading, Tewksbury, Tyngsborough.
Chaffin, W. E., . . .	1,700	Egypt, . . .	Duxbury, Marshfield, Scituate.
Chapman, Ira T., . . .	2,000	Millbury, . . .	Millbury, Oxford.
Clapp, George I., . . .	2,000	Woburn, . . .	Woburn.
Clark, Charles S., . . .	3,000	Somerville, . . .	Somerville.
Clarke, George B., . . .	1,500	Lanesborough, . . .	Clarksburg, Hancock, Lanesborough, New Ashford.
Clay, Charles L., . . .	1,500	North Dana, . . .	Dana, Greenwich, New Salem, Prescott.
Cobb, Edwin S., . . .	1,650	Uxbridge, . . .	Douglas, Uxbridge.
Coggins, William L., . . .	1,500	Rockland, . . .	Rockland.
Cole, Albert S., . . .	1,700	North Dartmouth, . .	Dartmouth, Westport.

<sup>1</sup> Also principal of high school.

IX. — *List of superintendents, alphabetically arranged, with their superintendencies — Continued.*

SUPERINTENDENTS.	Salaries.	Addresses.	Superintendencies.
Congdon, F. K., . . .	\$2,200	Northampton, . . .	Northampton.
Corbin, F. E., <sup>1</sup> . . .	2,100	Southbridge, . . .	Southbridge.
Cox, George W., . . .	2,000	Ware, . . .	Ware.
Damon, Frank H., <sup>1</sup> . . .	2,500	Lexington, . . .	Lexington.
Davis, John C., . . .	1,650	Dighton, . . .	Berkley, Dighton, Rehoboth.
Davison, F. P., . . .	1,800	Turners Falls, . . .	Montague.
DeMeyer, John E., . . .	2,000	Abington, . . .	Abington, Bridgewater.
Dempsey, Clarence H., . . .	2,700	Malden, . . .	Malden.
Dixon, Edward, . . .	1,700	Orange, . . .	Orange.
Douglas, Frank A., <sup>2</sup> . . .	2,400	Winthrop, . . .	Winthrop.
Durfee, Everett B., . . .	3,000	Fall River, . . .	Fall River.
Eaton, Charles M., <sup>1</sup> . . .	2,200	Weston, . . .	Weston.
Edgerly, Joseph G., . . .	2,700	Fitchburg, . . .	Fitchburg.
Edson, Marshall O., . . .	1,500	Sterling, . . .	Princeton, Sterling, Westminster.
Eldredge, William F., . . .	1,200	Rockport, . . .	Rockport,
Ellinwood, George F., . . .	1,600	Whitman, . . .	Whitman.
Emery, S. H., . . .	500	Interlaken, . . .	Stockbridge.
Ersline, Samuel H., <sup>1</sup> . . .	2,250	Lancaster, . . .	Lancaster.
Evans, Osmon C., . . .	1,500	176 Pleasant Street, Worcester.	Auburn, Sutton.
Fales, Lewis A., . . .	2,100	Attleborough, . . .	Attleborough.
Farley, George S. . . .	3,000	Brockton, . . .	Brockton.
Ferguson, C. C. . . .	1,550	West Brookfield, . . .	New Braintree, Sturbridge, West Brookfield.
Fish, Charles E., . . .	2,000	Amesbury, . . .	Amesbury, Merrimac.
Fitts, Edward P., . . .	1,800	Mansfield, . . .	Mansfield, Sharon, Stoughton.
Fittz, Austin H., . . .	1,800	Norwood, . . .	Norwood.
Ford, Thomas H., <sup>3</sup> . . .	1,000	Swampscott, . . .	Swampscott.
Freeman, L. A., . . .	1,700	93 Comstock Avenue, Providence, R. I.	Seekonk, Somerset, Swansea.
Frost, Gaius B., . . .	1,500	Georgetown, . . .	Georgetown, Groveland, Rowley.
Fuller, Robert J., . . .	1,975	North Attleborough, . . .	North Attleborough.
Galger, George H., . . .	1,700	Hyannis, . . .	Barnstable.
Gamwell, Irving H., . . .	1,334	Franklin, . . .	Franklin.
Goodhue, E. W., . . .	1,500	Haydenville, . . .	Chesterfield, Williamsburg, Worthington.
Gordy, Wilbur F., . . .	4,000	Springfield, . . .	Springfield.
Graves, Frank K., . . .	1,500	Ashfield, . . .	Ashfield, Cummington, Goshen, Plainfield.
Gray, John C., . . .	2,250	Chicopee, . . .	Chicopee.
Gray, Lee T., <sup>1</sup> . . .	2,000	Palmer, . . .	Palmer.
Grout, Edgar H., . . .	1,500	East Bridgewater, . . .	East Bridgewater, Raynham, West Bridgewater.

<sup>1</sup> Also principal of high school.    <sup>2</sup> Also principal of grammar school.    <sup>3</sup> Two days per week.

IX. — *List of superintendents, alphabetically arranged, with their superintendencies — Continued.*

SUPERINTENDENTS.	Salaries.	Addresses.	Superintendencies.
Gruver, Harvey S., . . .	\$1,500	Methuen, . . .	Methuen.
Gushee, Walter E., . . .	1,600	Ludlow, . . .	Agawam, Ludlow.
Haley, C. W., . . .	1,800	Milford, . . .	Milford.
Hall, I. Freeman, . . .	2,500	North Adams, . . .	North Adams.
Hall, Wells A., <sup>1</sup> . . .	2,300	Concord, . . .	Concord.
Hardy, A. L., . . .	2,000	Amherst, . . .	Amherst, Pelham.
Harris, Charles A., . . .	1,650	Holliston, . . .	Holliston, Medway, Sherborn.
Harrub, H. W., . . .	2,400	Taunton, . . .	Taunton.
Hayes, James S., . . .	1,600	Rockland, . . .	Hanover, Hanson, Norwell.
Haynes, Edwin L., . . .	1,650	Townsend, . . .	Ashby, Lunenburg, Townsend.
Heavens, Francis J., . . .	2,000	Plymouth, . . .	Plymouth.
Herron, Schuyler F., . . .	2,500	Winchester, . . .	Winchester.
Hicks, Bion E., . . .	1,500	Lee, . . .	Lee, Monterey, Otis, Tyringham.
Hill, Frank H., . . .	1,600	Littleton, . . .	Acton, Littleton, Westford.
Hine, Roderick W., . . .	2,200	Dedham, . . .	Dedham.
Howard, Elmer F., . . .	1,800	East Northfield, . . .	Gill, Leyden, Northfield, Warwick.
Howard, Nelson G., . . .	2,350	Hingham Center, . . .	Cohasset, Hingham, Hull.
Humphrey, Chester W., . . .	1,500	Rochester, . . .	Carver, Lakeville, Rochester.
Hunt, Charles L., . . .	2,000	Clinton, . . .	Clinton.
Hutchinson, S. C., . . .	1,800	Andover, . . .	Andover.
Jacoby, Asher J., . . .	3,000	East Milton, . . .	Milton.
Jenkins, Ira A., <sup>1</sup> . . .	1,500	Falmouth, . . .	Falmouth.
Johnson, Frank C., . . .	2,000	Ayer, . . .	Ayer, Boylston, Shirley, West Boylston.
Johnson, William F., . . .	2,000	Wellesley Hills, . . .	Wellesley.
Jones, Asa M., . . .	1,600	Charlemont, . . .	Charlemont, Florida, Hawley, Heath, Monroe, Rowe.
Judkins, Clarence L., . . .	1,600	Barre, . . .	Barre, Hardwick, Petersham.
Keith, Allen P., . . .	4,000	New Bedford, . . .	New Bedford.
Kingman, F. W., . . .	2,100	Walpole, . . .	Walpole.
Knox, Herman N., . . .	1,650	Wareham, . . .	Marion, Wareham.
Lea, Watson C., . . .	1,500	Holbrook, . . .	Avon, Holbrook, Randolph.
Lewis, Alvan R., . . .	1,500	Belchertown, . . .	Belchertown, Enfield.
Lewis, Homer P., . . .	4,250	Worcester, . . .	Worcester.
Lewis, Mary A., Ass't, . . .	1,350	Cambridge, . . .	Cambridge.
Lincoln, Mary L., . . .	1,100	Nantucket, . . .	Nantucket.
Loring, Everett G., . . .	1,650	Kingston, . . .	Halifax, Kingston, Pembroke, Plympton.
Lyman, C. S., . . .	2,000	Hudson, . . .	Hudson, Lincoln.
Mackin, John C., <sup>2</sup> . . .	1,700	Manchester, . . .	Manchester.

<sup>1</sup> Also principal of high school.<sup>2</sup> Also principal of grammar school.

IX.—*List of superintendents, alphabetically arranged, with their superintendencies*—Continued.

SUPERINTENDENTS.	Salaries.	Addresses.	Superintendencies.
Manning, John H., <sup>1</sup>	\$1,550	Groton.	Groton.
Marsh, Frank M.,	2,400	Fairhaven.	Acushnet, Fairhaven, Mattapoisett.
Marston, John P., <sup>1</sup>	2,300	Ipswich.	Ipswich.
Martin, Benjamin E.,	1,600	Chelmsford.	Carlisle, Chelmsford, Dunstable.
Mason, Wallace E., <sup>1</sup>	2,200	North Andover.	North Andover.
McCann, Josiah S.,	1,500	Granville.	Granville, Sandisfield, Southwick, Tolland.
McCooley, Joseph P.,	888	Blackstone.	Blackstone.
Melcher, S. A., <sup>1</sup>	2,350	Whitinsville.	Northbridge.
Merriam, Burr J.,	1,550	Brookfield.	Brookfield, North Brookfield.
Merrill, Leon O.,	1,500	Huntington.	Blandford, Huntington, Montgomery, Russell.
Miller, W. D.,	1,700	Easthampton.	Easthampton, Southampton, Westhampton.
Millington, W. H.,	1,600	Foxborough.	Foxborough, Freetown.
Minard, George C.,	1,500	Hopkinton.	Ashland, Hopkinton.
Mitchell, Walter G.,	1,200	Williamstown.	Williamstown.
Morton, O. A.,	2,100	Marlborough.	Marlborough.
Nickerson, Fred H.,	2,800	Medford.	Medford.
Nims, Wesley E.,	1,500	Warren.	Holland, Wales, Warren.
Oldham, J. R. D.,	1,620	Sandwich.	Bourne, Mashpee, Sandwich.
Parker, Walter S., Ass't,	4,500	Boston.	Boston.
Parkinson, William D.,	2,500	Waltham.	Waltham.
Parlin, Frank E.,	3,500	Cambridge.	Cambridge.
Paull, A. R.,	1,600	East Pepperell.	Bolton, Harvard, Pepperell.
Pearson, Parker T.,	1,800	Weymouth.	Weymouth.
Peaslee, Frank J.,	3,000	Lynn.	Lynn.
Perkins, James S.,	1,800	Canton.	Canton.
Perkins, John W.,	2,500	Salem.	Salem.
Persons, Clair G.,	2,500	Pittsfield.	Pittsfield.
Poland, Mary L.,	1,600	15 Myrtle Street, Springfield.	East Longmeadow, Hampden, Longmeadow, Wilbraham.
Pope, Frederic S.,	1,700	North Easton.	Easton.
Price, Wilfred H.,	2,200	Watertown.	Watertown.
Prior, Charles F.,	1,700	Grafton.	Grafton, Upton.
Putney, Freeman,	2,300	Gloucester.	Gloucester.
Putney, Walter K.,	1,350	Needham.	Needham.
Rafter, Augustine L., Ass't,	4,500	Boston.	Boston.
Randall, Charles L.,	1,600	Holden.	Holden, Oakham, Paxton, Rutland.
Record, C. A.,	2,300	Haverhill.	Haverhill.
Rich, Frank M.,	1,600	Provincetown.	Provincetown, Truro, Wellfleet.

<sup>1</sup> Also principal of high school.

IX. — *List of superintendents, alphabetically arranged, with their superintendencies* — Continued.

SUPERINTENDENTS.	Salaries.	Addresses.	Superintendencies.
Richards, Clinton J., .	\$1,600	West Newbury, .	Boxford, Newbury, Salisbury, Topsfield, West Newbury.
Richardson, Charles C., .	1,500	Leicester, . . .	Charlton, Leicester.
Richardson, Herbert E., .	2,000	Greenfield, . . .	Greenfield.
Riley, John L., . . .	3,000	Holyoke, . . . .	Holyoke.
Riley, William E., . .	1,650	Hinsdale, . . . .	Hinsdale, Peru, Savoy, Windsor.
Ripley, Mrs. Ellor C., Ass't,	4,500	Boston, . . . .	Boston.
Robinson, Albert, . . .	1,900	Peabody, . . . .	Peabody.
Robinson, Ernest W., .	2,100	Webster, . . . .	Dudley, Webster.
Safford, Adelbert L., .	2,500	Chelsea, . . . .	Chelsea.
Sanborn, Henry C., . .	2,000	Danvers, . . . .	Danvers.
Sanderson, W. H., . . .	1,600	Chester, . . . .	Becket, Chester, Middlefield, Washington.
Scully, John F., . . .	2,500	Arlington, . . . .	Arlington.
Sheridan, Bernard M., .	3,500	Lawrence, . . . .	Lawrence.
Sims, William F., . . .	1,600	Saugus, . . . .	Saugus.
Simmons, Charles L., .	2,500	Westfield, . . . .	Westfield.
Small, Alberto W., . . .	1,500	Baldwinville, . .	Hubbardston, Phillipston, Roy- alston, Templeton.
Small, Robert O., . . .	2,200	Beverly, . . . .	Beverly.
Spaulding, Frank E., .	5,000	Newtonville, . . .	Newton.
Stacy, Chester R., . . .	1,500	Yarmouthport, . .	Brewster, Dennis, Yarmouth.
Stearns, Mrs. Cora A., .	1,500	Wendell Depot, . .	Erving, Leverett, Shutesbury, Wendell.
Stiles, Chester D., . . .	1,600	South Deerfield, .	Conway, Deerfield, Sunderland, Whately.
Stone, Melville A., . . .	1,500	Shelburne Falls, .	Buckland, Colrain, Shelburne.
Taylor, Herbert F., . . .	2,200	Revere, . . . .	Revere.
Thompson, Frank V., Ass't,	4,500	Boston, . . . .	Boston.
Thompson, Thomas E., .	2,200	Leominster, . . . .	Leominster.
Tirrell, Edwin S., . . .	1,425	Nahant, . . . .	Nahant.
Tower, Alfred O., . . .	1,500	Sheffield, . . . .	Mount Washington, New Marl- borough, Sheffield.
Van Ornum, F. B., . . .	1,700	Northborough, . .	Berlin, Northborough, Shrews- bury, Southborough.
Waldron, H. C., <sup>1</sup> . . .	1,800	Westborough, . . .	Westborough.
Ward, W. Scott, . . . .	2,000	Athol, . . . .	Athol.
Watkins, Harry T., <sup>1</sup> . .	3,000	Reading, . . . .	Reading.
Webber, Arthur B., . . .	1,800	Stoneham, . . . .	Billerica, Stoneham.
West, M. J., . . . .	1,600	Millis, . . . .	Medfield, Millis, Norfolk, West- wood.
Wheeler, Frederic A., .	1,500	Monson, . . . .	Brimfield, Monson.
Whitcomb, Arthur K., .	3,000	Lowell, . . . .	Lowell.
White, Maurice P., Ass't, .	4,500	Boston, . . . .	Boston.
Whitney, Fairfield, . . .	2,500	Everett, . . . .	Everett.

<sup>1</sup> Also principal of high school.

IX. — *List of superintendents, alphabetically arranged, with their superintendencies* — Concluded.

SUPERINTENDENTS.	Salaries.	Addresses.	Superintendencies.
Whittemore, F. E., . .	\$1,750	South Hadley Falls, .	Granby, South Hadley.
Wiggin, Ralph L., . .	1,600	South Braintree, .	Braintree.
Willard, Edgar L., . .	1,700	Newburyport, . .	Newburyport.
Williams, F. F., . .	1,550	West Stockbridge, .	Alford, Egremont, Richmond, West Stockbridge.
Williams, H. R., . .	1,500	Wenham, . . .	Essex, Middleton, Wenham.
Williams, Loring G., .	1,600	Harwich, . . .	Chatham, Eastham, Harwich, Orleans.
Willson, Myron J., . .	2,000	Winchendon, . .	Ashburnham, Winchendon.
Wood, Judson I., . .	2,100	Gardner, . . .	Gardner.
Files, Harold W. <sup>1</sup> . .	1,400	Wilmington, . .	Wilmington.
(Total, 192.)			

<sup>1</sup> Also principal of high school.

## X. — UNION SUPERINTENDENCIES.

Number.	UNIONS.	When formed.	Valuation of assessed estate, May 1, 1909.	No. of schools, 1908-1909.	EACH TOWN'S SHARE OF SUPERINTENDENT'S —		State aid to each town.	Superintendent's salary.	When union superintendency begins.	JOINT COMMITTEE.	
					Service.	Salary.				Chairman.	Secretary.
1	Duxbury, Marshfield, Scituate.	1888 1888 1888	\$2,204,035 1,918,000 4,475,660	11 10 12	$\frac{1}{3}$ $\frac{1}{3}$ $\frac{1}{3}$	\$250 00 250 00 250 00	\$416 66 416 66 —	\$1,600 00	June 1,	Edgar L. Hitchcock, Marshfield Hills.	Clara M. Skeele, Scituate.
2	Hubbardston, Phillipston, Royalston, Templeton.	1889 1889 1889 1889	689,615 283,860 570,465 1,586,524	8 4 7 17	$\frac{2}{10}$ $\frac{1}{10}$ $\frac{2}{10}$ $\frac{5}{10}$	150 00 75 00 150 00 375 00	250 00 125 00 250 00 625 00	1,500 00	July 1,	Frederick P. Stone (Otter River), Templeton.	Mrs. Rose E. Coleman, Templeton.
3	Ashland, Hopkinton.	1889 1889	1,192,830 1,578,361	10 13	$\frac{2}{8}$ $\frac{3}{8}$	300 00 450 00	500 00 750 00	1,500 00	July 1,	Chas. A. Wight, Ashland.	Lewes D. Drawbridge, Hopkinton.
4	Easthampton, Southampton, Westhampton.	1889 1889 1889	5,690,444 496,966 235,895	25 8 6	12 days. 5 days. 3 days.	450 00 187 50 112 50	— 312 50 187 50	1,600 00	July 1,	Rev. Franz Willer, Easthampton.	Chas. N. Loud, Westhampton.
5	Barre, Hardwick, Petersham.	1890 1890 1890	1,852,997 1,829,470 902,181	13 14 6	$\frac{2}{2}$ $\frac{2}{2}$ $\frac{1}{2}$	300 00 300 00 150 00	500 00 500 00 250 00	1,600 00	May 1,	Dr. George A. Brown, Barre.	Charles O. Flagg, Hardwick.
6	Berlin, Northborough, Shrewsbury, Southborough.	1890 1890 1890 1890	554,040 1,355,811 1,632,669 1,833,898	5 9 11 9	$\frac{1}{2}$ $\frac{2}{2}$ $\frac{2}{2}$ $\frac{2}{2}$	107 40 214 20 214 20 214 20	179 00 357 00 357 00 357 00	1,800 00	May 1,	Henry A. Wheeler, Berlin.	Edwin S. Corey, Northborough.
7	Becket, Chester, Middlefield, Washington.	1890 1890 1890 1890	518,483 713,861 186,809 282,585	7 11 7 5	$\frac{132}{246}$ $\frac{500}{500}$ $\frac{8}{8}$ $\frac{40}{500}$	198 00 369 00 123 00 60 00	330 00 615 00 205 00 100 00	1,600 00	July 1,	James H. Keefe, Chester.	Howard R. Molineux, Becket.
8	Brimfield, Monson.	1890 1890	559,840 1,821,143	6 23	$\frac{3}{10}$ $\frac{7}{10}$	225 00 525 00	375 00 875 00	1,500 00	April 30,	Dr. R. V. Sawin, Brimfield.	Dr. E. W. Capen, Monson.

## X. — Union Superintendencies — Continued.

Number.	UNIONS.	When formed.	Valuation of assessed estate, May 1, 1909.	No. of schools, 1908-1909.	EACH TOWN'S SHARE OF SUPERINTENDENT'S —		State aid to each town.	Superintendent's salary.	When union superintendency begins.	JOINT COMMITTEE.	
					Service.	Salary.				Chairman.	Secretary.
9	Princeton, Sterling, Westminster,	1890 1890 1890	\$1,097,179 1,132,690 1,785,255	8 10 12	$\frac{1}{4}$ $\frac{2}{5}$ $\frac{2}{5}$	\$150 00 300 00 300 00	\$250 00 500 00 500 00	\$1,500 00	July 1,	William M. Roper, Jr., Princeton Depot.	Mrs. Katherine T. Dutton, Dunstable.
10	Mansfield, Sharon, Stoughton,	1891 1891 1891	3,950,667 2,763,782 3,497,887	21 8 23	2 days. 1 day. 2 days.	300 00 150 00 300 00	500 00 250 00 —	1,800 00	April 9,	John W. McIntosh, Sharon.	Harry R. Fisher, 116 South Main St., Mansfield.
11	Dracut, North Reading, Tewksbury, Tyngsborough,	1891 1891 1891 1891	2,349,207 701,634 1,270,960 558,813	16 4 6 5	$\frac{5}{10}$ $\frac{1}{10}$ $\frac{3}{10}$ $\frac{1}{10}$	375 00 75 00 225 00 75 00	625 00 125 00 375 00 125 00	2,100 00	Sept. 1,	Lucien C. McLoon, Box 114, Tyngsborough.	Ophelia S. Brown, Tyngsborough.
12	Brookfield, North Brookfield,	1891 1891	1,271,436 1,617,985	16 10	$\frac{1}{2}$ $\frac{1}{2}$	375 00 375 00	625 00 625 00	1,500 00	July 1,	Anson P. Goodell, Brookfield.	Arthur C. Bliss, North Brookfield.
13	Grafton, Upton,	1891 1891	2,669,695 1,110,924	21 9	$\frac{3}{4}$ $\frac{1}{4}$	562 50 187 50	937 50 312 50	2,000 00	July 1,	Francis M. McGarry, Grafton.	George W. Knowlton, Jr., West Upton.
14	Millbury, Oxford,	1891 1891	2,293,295 1,938,120	19 19	$\frac{3}{5}$ $\frac{2}{5}$	450 00 300 00	750 00 500 00	2,000 00	Aug. 1,	Lawrence F. Kilty, Oxford.	Edward F. Hull, Millbury.
15	Abington, Bridgewater,	1891 1891	2,939,824 3,320,266	20 25	$\frac{1}{2}$ $\frac{1}{2}$	375 00 375 00	625 00 625 00	1,800 00	Aug. 1	J. Gardner Bassett, Bridgewater.	Walter P. Hutchinson, Abington.
16	Buckland, Colrain, Shelburne,	1892 1892 1892	711,172 675,319 1,275,847	9 15 9	$\frac{3}{10}$ $\frac{4}{10}$ $\frac{3}{10}$	225 00 300 00 225 00	375 00 500 00 375 00	1,500 00	April 24,	Herbert Newell, Shelburne Falls.	Jonathan E. Davenport, Colrain.
17	Bourne, Mashpee, Sandwich,	1892 1892 1892	4,103,875 219,710 1,013,225	12 2 10	$\frac{9}{20}$ $\frac{2}{20}$ $\frac{9}{20}$	337 50 75 00 337 50	562 50 125 00 562 50	1,500 00	July 1,	Chas. M. Thompson, Sandwich.	Annie M. Starbuck (Bourne-dale), Bourne.





## X. — Union Superintendencies — Continued.

Number.	UNIONS.	When formed.	Valuation of assessed estate, May 1, 1909.	No. of schools, 1908-1909.	EACH TOWN'S SHARE OF SUPERINTENDENT'S —		State aid to each town.	Superintendent's salary.	When union superintendency year begins.	JOINT COMMITTEE.	
					Service.	Salary.				Chairman.	Secretary.
29	Granby, . South Hadley, .	1895 1895	\$506,046 2,790,011	5 24	$\frac{1}{4}$ $\frac{3}{4}$	\$187 50 562 50	\$312 50 937 50	\$1,750 00	April 1,	George S. Lyman, South Hadley.	George F. Eastman, Granby.
30	Gill, . Leyden, <sup>1</sup> . Northfield, . Warwick, .	1895 1901 1895 1895	471,701 165,560 1,353,313 428,481	6 4 9 4	$\frac{1}{4}$ $\frac{1}{4}$ $\frac{2}{5}$ $\frac{1}{5}$	150 00 150 00 300 00 150 00	250 00 250 00 500 00 250 00	1,800 00	May 7,	L. R. Smith, East Northfield,	Mrs. Nellie M. Wood, Northfield.
31	Chilmark, <sup>2</sup> . Edgartown, . Gay Head, <sup>3</sup> . Oak Bluffs, . Tisbury, . West Tisbury, .	1897 1895 1902 1895 1895 1895	309,662 1,054,100 29,172 1,825,700 1,463,377 542,562	2 5 1 6 6 4	$\frac{2}{50}$ $\frac{4}{50}$ $\frac{1}{50}$ $\frac{5}{50}$ $\frac{5}{50}$ $\frac{3}{50}$	75 00 150 00 37 50 187 50 187 50 112 50	125 00 250 00 62 50 312 50 312 50 187 50	1,600 00	July 1,	Ulysses E. Mayhew, West Tisbury.	Anson M. Luce, Chilmark.
32	Georgetown, . Groveland, . Rowley, .	1895 1895 1895	1,025,400 1,162,672 747,357	8 12 8	$\frac{2}{5}$ $\frac{2}{5}$ $\frac{1}{5}$	300 00 300 00 150 00	500 00 500 00 250 00	1,500 00	Sept. 1,	Albert L. Wales, 16 King Street, Groveland.	Frank E. Richardson, Rowley.
33	Carlisle, . Chelmsford, . Dunstable, .	1896 1896 1896	457,230 4,524,105 328,944	3 26 3	$\frac{1}{10}$ $\frac{8}{10}$ $\frac{1}{10}$	75 00 600 00 75 00	125 00 — 125 00	1,600 00	Aug. 1,	Herbert E. Ellis, Chelmsford,	Arthur N. Hall, Dunstable.
34	Holliston, . Medway, . Sherborn, .	1896 1896 1896	1,657,593 1,447,985 1,480,601	12 12 5	$\frac{2}{5}$ $\frac{2}{5}$ $\frac{1}{5}$	300 00 300 00 150 00	500 00 500 00 250 00	1,500 00	Sept. 1,	Charles H. M. Bartlett, Holliston.	John H. Wyman, Medway.
35	Acushnet, . Fairhaven, . Mattapoisett, .	1897 1897 1897	710,940 3,239,922 1,661,345	7 21 6	$\frac{1}{6}$ $\frac{4}{6}$ $\frac{1}{6}$	125 00 500 00 125 00	208 33 833 34 208 33	2,250 00	July 1,	Thomas A. Tripp, Fairhaven,	John T. Atsatt, Mattapoisett.

		1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	
36	Charlottesville, Florida, Hawley, Heath, <sup>3</sup> Monroe, Rove,	521,408 186,057 158,022 172,672 168,586 195,089	521,408 186,057 158,022 172,672 168,586 195,089	521,408 186,057 158,022 172,672 168,586 195,089	521,408 186,057 158,022 172,672 168,586 195,089	521,408 186,057 158,022 172,672 168,586 195,089	521,408 186,057 158,022 172,672 168,586 195,089	521,408 186,057 158,022 172,672 168,586 195,089	521,408 186,057 158,022 172,672 168,586 195,089	521,408 186,057 158,022 172,672 168,586 195,089	521,408 186,057 158,022 172,672 168,586 195,089	521,408 186,057 158,022 172,672 168,586 195,089	521,408 186,057 158,022 172,672 168,586 195,089	521,408 186,057 158,022 172,672 168,586 195,089	521,408 186,057 158,022 172,672 168,586 195,089	521,408 186,057 158,022 172,672 168,586 195,089	A. W. Payne, Charle- mont.
37	Ashby, Lunenburg, <sup>4</sup> Townsend,	531,775 1,102,655 1,174,800	531,775 1,102,655 1,174,800	531,775 1,102,655 1,174,800	531,775 1,102,655 1,174,800	531,775 1,102,655 1,174,800	531,775 1,102,655 1,174,800	531,775 1,102,655 1,174,800	531,775 1,102,655 1,174,800	531,775 1,102,655 1,174,800	531,775 1,102,655 1,174,800	531,775 1,102,655 1,174,800	531,775 1,102,655 1,174,800	531,775 1,102,655 1,174,800	531,775 1,102,655 1,174,800	531,775 1,102,655 1,174,800	Rev. A. T. Kempton, Lunen- burg.
38	Dover, Sudbury, Wayland,	5,328,141 1,254,980 2,349,414	5,328,141 1,254,980 2,349,414	5,328,141 1,254,980 2,349,414	5,328,141 1,254,980 2,349,414	5,328,141 1,254,980 2,349,414	5,328,141 1,254,980 2,349,414	5,328,141 1,254,980 2,349,414	5,328,141 1,254,980 2,349,414	5,328,141 1,254,980 2,349,414	5,328,141 1,254,980 2,349,414	5,328,141 1,254,980 2,349,414	5,328,141 1,254,980 2,349,414	5,328,141 1,254,980 2,349,414	5,328,141 1,254,980 2,349,414	5,328,141 1,254,980 2,349,414	Dr. Philip S. Ide, Wayland.
39	New Braintree, Sturbridge, West Brookfield,	396,685 1,066,625 912,334	396,685 1,066,625 912,334	396,685 1,066,625 912,334	396,685 1,066,625 912,334	396,685 1,066,625 912,334	396,685 1,066,625 912,334	396,685 1,066,625 912,334	396,685 1,066,625 912,334	396,685 1,066,625 912,334	396,685 1,066,625 912,334	396,685 1,066,625 912,334	396,685 1,066,625 912,334	396,685 1,066,625 912,334	396,685 1,066,625 912,334	396,685 1,066,625 912,334	S. H. Reed, West Brookfield.
40	Acton, Littleton, Westford,	1,955,645 1,072,355 1,833,214	1,955,645 1,072,355 1,833,214	1,955,645 1,072,355 1,833,214	1,955,645 1,072,355 1,833,214	1,955,645 1,072,355 1,833,214	1,955,645 1,072,355 1,833,214	1,955,645 1,072,355 1,833,214	1,955,645 1,072,355 1,833,214	1,955,645 1,072,355 1,833,214	1,955,645 1,072,355 1,833,214	1,955,645 1,072,355 1,833,214	1,955,645 1,072,355 1,833,214	1,955,645 1,072,355 1,833,214	1,955,645 1,072,355 1,833,214	1,955,645 1,072,355 1,833,214	Charles O. Prescott, Westford.
41	Marion, Wareham,	4,408,620 4,711,228	4,408,620 4,711,228	4,408,620 4,711,228	4,408,620 4,711,228	4,408,620 4,711,228	4,408,620 4,711,228	4,408,620 4,711,228	4,408,620 4,711,228	4,408,620 4,711,228	4,408,620 4,711,228	4,408,620 4,711,228	4,408,620 4,711,228	4,408,620 4,711,228	4,408,620 4,711,228	4,408,620 4,711,228	Dr. A. C. Vose, Marion.
42	Holden, Oakham, Paxton, Rutland,	1,629,967 379,992 332,965 721,176	1,629,967 379,992 332,965 721,176	1,629,967 379,992 332,965 721,176	1,629,967 379,992 332,965 721,176	1,629,967 379,992 332,965 721,176	1,629,967 379,992 332,965 721,176	1,629,967 379,992 332,965 721,176	1,629,967 379,992 332,965 721,176	1,629,967 379,992 332,965 721,176	1,629,967 379,992 332,965 721,176	1,629,967 379,992 332,965 721,176	1,629,967 379,992 332,965 721,176	1,629,967 379,992 332,965 721,176	1,629,967 379,992 332,965 721,176	1,629,967 379,992 332,965 721,176	Mrs. M. Addie Holden, Holden.
43	Ashfield, Cummington, Goshen, Plainfield,	617,288 333,550 181,685 175,624	617,288 333,550 181,685 175,624	617,288 333,550 181,685 175,624	617,288 333,550 181,685 175,624	617,288 333,550 181,685 175,624	617,288 333,550 181,685 175,624	617,288 333,550 181,685 175,624	617,288 333,550 181,685 175,624	617,288 333,550 181,685 175,624	617,288 333,550 181,685 175,624	617,288 333,550 181,685 175,624	617,288 333,550 181,685 175,624	617,288 333,550 181,685 175,624	617,288 333,550 181,685 175,624	617,288 333,550 181,685 175,624	George B. Church, Shelburne Falls, R. F. D.
44	Bedford, Bedmont, <sup>5</sup> Burlington,	1,307,261 6,278,770 625,899	1,307,261 6,278,770 625,899	1,307,261 6,278,770 625,899	1,307,261 6,278,770 625,899	1,307,261 6,278,770 625,899	1,307,261 6,278,770 625,899	1,307,261 6,278,770 625,899	1,307,261 6,278,770 625,899	1,307,261 6,278,770 625,899	1,307,261 6,278,770 625,899	1,307,261 6,278,770 625,899	1,307,261 6,278,770 625,899	1,307,261 6,278,770 625,899	1,307,261 6,278,770 625,899	1,307,261 6,278,770 625,899	Elihu G. Loomis, Bedford.
45	Lynnfield, Wakefield,	782,096 9,089,098	782,096 9,089,098	782,096 9,089,098	782,096 9,089,098	782,096 9,089,098	782,096 9,089,098	782,096 9,089,098	782,096 9,089,098	782,096 9,089,098	782,096 9,089,098	782,096 9,089,098	782,096 9,089,098	782,096 9,089,098	782,096 9,089,098	782,096 9,089,098	Chas. E. Montague, Wake- field.

<sup>1</sup> Added in 1901.

<sup>2</sup> Added in 1897.

<sup>3</sup> Added in 1902.

<sup>4</sup> Added May 16, 1905, by decree of State Board of Education.

<sup>5</sup> Added in 1910.

## X.—Union Superintendencies — Continued.

Number.	UNIONS.	When formed.	Valuation of assessed estate, May 1, 1909.	No. of schools, 1908-1909.	EACH TOWN'S SHARE OF SUPERINTENDENT'S —		State aid to town.	Superintendent's salary.	When union superintendency begins.	JOINT COMMITTEE.	
					Service.	Salary.				Chairman.	Secretary.
46	Amherst, Pelham, . . .	1901 1901	\$3,778,379 279,983	20 4	$\frac{4}{5}$ $\frac{1}{5}$	\$600 00 150 00	— \$250 00	\$1,950 00	April 1,	John L. Brewer, Pellam, .	Albion B. Allen, Amherst.
47	Barnardston, . . . Hadley, . . . Hatfield, . . .	1901 1901 1901	440,639 1,346,534 1,326,842	5 12 10	$\frac{9}{16}$ $\frac{12}{16}$ $\frac{10}{16}$	160 72 321 42 267 86	267 87 535 70 446 43	1,500 00	April 15,	Thaddeus Graves, Jr., Hatfield, P. O. Box 134.	Arthur R. Breor, Hatfield.
48	Blandford, . . . Huntington, . . . Montgomery, . . . Russell, . . .	1901 1901 1901 1901	534,301 632,725 170,758 736,428	8 10 4 9	$\frac{7}{16}$ $\frac{10}{16}$ $\frac{3}{16}$ $\frac{9}{16}$	181 03 238 62 77 59 232 76	301 72 431 03 129 32 387 93	1,500 00	July 1,	A. G. Wightman, Russell, .	S. C. Tiffany, Blandford.
49	Avon, . . . Holbrook, . . . Randolph, . . .	1901 1901 1901	962,100 1,450,648 2,066,200	10 13 16	$\frac{4}{15}$ $\frac{5}{15}$ $\frac{4}{15}$	200 00 150 00 300 00	333 33 416 67 500 00	1,500 00	July 1,	Zenas A. French, Holbrook, .	Patrick E. McConnigle, Avon.
50	Douglas, . . . Uxbridge, . . .	1901 1901	1,233,795 2,850,585	10 26	$\frac{2}{5}$ $\frac{3}{5}$	300 00 450 00	500 00 750 00	1,650 00	Sept. 1,	Leander S. Aldrich, Uxbridge,	Edward T. Buxton, Douglas.
51	Erving, . . . Leverett, . . . Shutesbury, . . . Wendell, . . .	1901 1901 1901 1901	973,515 316,830 238,929 263,805	5 8 2 6	$\frac{5}{10}$ $\frac{5}{10}$ $\frac{2}{5}$ $\frac{5}{10}$	300 00 187 50 75 00 187 50	500 00 312 50 125 00 312 50	1,500 00	Aug. 1,	Nathan J. Hunting, Shutesbury.	Mrs. Jennie C. Richards, Erving.
52	Lee, . . . Monterey, . . . Otis, . . . Tyringham, . . .	1901 1901 1901 1901	2,087,980 311,948 279,177 267,089	15 4 8 4	$\frac{12}{25}$ $\frac{9}{25}$ $\frac{5}{25}$ $\frac{3}{25}$	360 00 150 00 150 00 90 00	600 00 250 00 250 00 150 00	1,500 00	Sept. 1,	D. M. Wilcox, Lee, . . .	J. J. Hassett, Lee.
53	Hinsdale, . . . Peru, . . . Savoy, . . . Windsor, . . .	1901 1901 1901 1901	577,412 140,863 180,984 277,760	9 5 7 7	$\frac{3}{5}$ $\frac{17}{20}$ $\frac{22}{20}$ $\frac{2}{5}$	258 62 129 31 181 03 181 04	431 04 215 51 301 72 301 73	1,650 00	May 7,	Dennis A. Cady, Windsor, .	Thomas F. Ryan, Hinsdale.

54	Halifax, . Kingston, . Pembroke, Plympton, .	. . . . . . .	1901 1901 1901 1901	534,249 1,602,270 912,255 375,762	3 12 7 3	$\frac{2}{15}$ $\frac{9}{15}$ $\frac{5}{15}$ $\frac{7}{15}$	100 00 300 00 250 00 100 00	166 67 500 00 416 66 166 67	1,650 00	July 1,	John M. Monroe (Bryantville), Pembroke, R. F. D.	John W. Cobb, Kingston.
55	Clarksburg, . Hancock, . Lanesborough, New Ashford,	. . . . . . .	1902 1902 1902 1902	263,196 300,437 534,044 50,850	6 5 5 1	$\frac{9}{18}$ $\frac{6}{18}$ $\frac{7}{18}$ $\frac{7}{18}$	250 00 250 00 208 33 41 67	416 66 416 67 347 22 61 45	1,500 00	Sept. 1,	A. M. Wilbur, Lanesborough,	F. C. Downing, Lanesborough.
56	Dana, . Greenwich, . New Salem, . Prescott, .	. . . . . . .	1902 1902 1902 1902	304,242 246,532 360,740 187,569	5 6 6 4	$\frac{5}{10}$ $\frac{7}{10}$ $\frac{8}{10}$ $\frac{4}{10}$	197 37 78 95 315 79 157 89	328 95 131 53 526 32 263 15	1,500 00	Aug. 15,	Frank P. Hall, Greenwich Village.	Mrs. Nellie M. Brown, North Dana.
57	Auburn, . Sutton, .	. . .	1902 1902	1,231,500 1,290,855	13 16	$\frac{2}{3}$ $\frac{2}{3}$	270 00 480 00	450 00 800 00	1,500 00	July 1,	William T. Duvall, Box 8, Auburn.	Arthur C. Merrill, Sutton.
58	Essex, . Middleton, <sup>1</sup> Wenham, .	. . . . .	1902 1905 1902	1,142,265 791,271 2,517,600	8 4 6	$\frac{2}{5}$ $\frac{1}{5}$ $\frac{2}{5}$	300 00 150 09 300 00	500 00 250 00 500 00	1,500 00	July 1,	George V. Bowden, Wenham,	Mrs. Adeline B. Cole, Wen- ham.
59	Carver, . Lakeville, . Rochester, .	. . . . .	1902 1902 1902	1,504,725 701,355 643,366	10 7 7	$\frac{4}{10}$ $\frac{3}{10}$ $\frac{7}{10}$	300 00 225 00 225 00	500 00 375 00 375 00	1,500 00	May 1,	Charles C. Perkins, Carver, .	Ellis G. Cornish, Carver.
60	Medfield, <sup>2</sup> Millis, . Norfolk, . Westwood, .	. . . . . . .	1908 1902 1902 1902	1,596,504 995,070 829,494 2,595,663	7 7 6 6	$\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$	137 50 187 50 187 50 187 50	312 50 312 50 312 50 312 50	1,600 00	Sept. 1,	George C. Lee, Jr., 44 State Street, Boston.	Bartel G. Willard, Millis.
61	Mt. Washington, New Marlborough, Sheffield, .	. . . . .	1902 1902 1902	93,236 723,655 954,205	2 12 13	$\frac{6}{20}$ $\frac{20}{50}$ $\frac{2}{50}$	75 00 285 00 390 00	125 00 475 00 650 00	1,500 00	April 29,	E. L. Boardman, Sheffield, .	Z. H. Cande, Sheffield.
62	Chesterfield, . Williamsburg, Worthington, .	. . . . .	1902 1902 1902	315,640 982,798 352,878	5 14 6	$\frac{1}{4}$ $\frac{2}{4}$ $\frac{1}{4}$	187 50 375 00 187 50	312 50 625 00 312 50	1,500 00	Sept. 1,	Thos. K. Utley, Chesterfield,	Mrs. Martha S. Bisbee, Wil- liamsburg.
63	Alford, . Eremont, . Richmond, West Stockbridge, .	. . . . . . .	1902 1902 1902 1902	184,391 482,027 367,994 423,771	3 4 6 8	$\frac{3}{22}$ $\frac{4}{22}$ $\frac{7}{22}$ $\frac{8}{22}$	102 27 136 36 238 64 272 73	170 45 227 27 307 73 454 55	1,500 00	July 1,	George A. Germann, Alford, .	Mrs. Susan W. Blake, West Stockbridge.

<sup>1</sup> Added May 16, 1905, by decree of State Board of Education.<sup>2</sup> Added in 1908.

## X. — Union Superintendencies — Concluded.

Number.	UNIONS.	When formed.	Valuation of assessed estate, May 1, 1909.	No. of schools, 1908-1909.	EACH TOWN'S SHARE OF SUPERINTENDENT'S —		State aid to each town.	Superintendent's salary.	When union tendency begins.	JOINT COMMITTEE.	
					Service.	Salary.				Chairman.	Secretary.
64	Berkley, . Dighton, . Rehoboth, .	1902 1902 1902	\$392,908 1,084,308 877,825	7 12 15	$\frac{4}{50}$ $\frac{7}{50}$ $\frac{9}{50}$	\$150 00 282 50 337 50	\$250 00 437 50 562 50	\$1,625 00	July 1,	Charles D. Horton, Rehoboth,	Rev. A. Judson Rich, Dighton.
65	Charlton, . Leicester, .	1902 1902	1,292,945 2,413,624	15 20	$\frac{1}{2}$ $\frac{1}{2}$	375 00 375 00	625 00 625 00	1,500 00	Sept. 1,	Rev. Edgar W. Preble, Charlton.	Samuel A. Shepard (Cherry Valley), Leicester.
66	Boxborough, . Maynard, . Stow, .	1902 1902 1902	266,975 3,870,715 938,473	4 21 6	$\frac{2}{10}$ $\frac{5}{10}$ $\frac{3}{10}$	150 00 375 00 225 00	250 00 — 375 00	1,700 00	Sept. 1,	John H. Lawton, Maynard,	C. E. Bradford, Boxborough.
67	Conway, . Deerfield, . Sunderland, . Whately, .	1903 1903 1903 1903	704,959 1,795,140 494,521 456,631	11 14 5 5	30 per cent. 40 per cent. 19 per cent. 11 per cent.	226 65 300 23 141 37 81 75	377 75 500 38 235 62 136 25	1,600 00	June 1,	Cornelius G. Trow, Sunderland.	Edward A. Rice, South Deerfield.
68	Agawam, . Ludlow, .	1903 1903	1,839,840 3,972,379	14 26	$\frac{15}{100}$ $\frac{23}{100}$	296 05 433 95	493 32 —	1,600 00	July 1,	Edward E. Chapman, Ludlow,	Frederick A. Worthington, Agawam.
69	Granville, . Sunderland, . Southwick, . Tolland, .	1903 1903 1903 1903	468,678 345,255 1,232,481 201,138	8 7 9 1	30 per cent. 25 per cent. 35 per cent. 10 per cent.	225 00 187 50 262 50 75 00	375 00 312 50 437 50 125 00	1,500 00	July 1,	Charles Arnold, Southwick,	Mrs. Emma L. Stow, Granville Centre.
70	Dudley, . Webster, .	1903 1903	1,715,665 7,407,290	15 22	$\frac{1}{2}$ $\frac{2}{3}$	250 00 500 00	416 67 —	2,100 00	Aug. 1,	Spaulding Bartlett, Webster,	Robert A. Dunning, Webster.
71	Belchertown, . Enfield, .	1904 1904	916,195 677,870	17 7	$\frac{18}{25}$ $\frac{7}{25}$	540 00 210 00	900 00 350 00	1,500 00	Sept. 1,	M. Rozilla Barlow, Enfield,	M. A. Morse, Belchertown.
72	Boxford, . Newbury, . Salisbury, . Topsfield, . West Newbury, .	1905 1905 1905 1908 1905	1,301,860 1,232,481 891,360 1,270,217 1,077,422	6 7 9 5 9	$\frac{3}{10}$ $\frac{2}{10}$ $\frac{2}{10}$ $\frac{1}{10}$ $\frac{3}{10}$	150 00 150 00 150 00 75 00 225 00	250 00 250 00 250 00 125 00 375 00	1,600 00	Aug. 1,	Stuart M. Little, Newbury,	Josiah R. Gordon, West Newbury.

73 <sup>2</sup>	Ashburnham, Winchendon,	1905 1905	960,691 4,111,250	11 28	$\frac{1}{4}$ $\frac{3}{8}$	250 00 500 00	416 67 —	1,800 00	May 1,	Elisha M. Whitney, Winchendon.	Dr. Elmer G. Fosgate, Ashburnham.
74	Bolton, Harvard, Pepperell,	1909 1909 1909	497,860 1,233,711 2,253,058	4 4 17	$\frac{1}{4}$ $\frac{1}{4}$ $\frac{3}{4}$	187 50 187 50 375 00	312 50 312 50 625 00	1,600 00	July 1,	Dr. Herbert B. Royal, Harvard.	John E. Maynard, Harvard, R. F. D., No. 1, Box 28.
75 <sup>3</sup>	Ayer, Boylston, Shirley, West Boylston,	1909 1909 1909 1909	2,988,530 482,638 1,084,219 779,713	10 4 7 7	$\frac{4}{10}$ $\frac{1}{10}$ $\frac{3}{10}$ $\frac{3}{10}$	300 00 75 00 150 00 225 00	500 00 125 00 250 00 375 00	2,000 00	Oct. 15,	Albert W. Hinds, West Boylston.	George H. Brown, Ayer.
76	Seekonk, Somerset, Swansea,	1909 1909 1909	1,294,340 1,390,345 1,551,074	10 13 12	$\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$	250 00 250 00 250 00	416 67 416 66 416 67	1,700 00	July 1,	Hiram A. Thurber, Seekonk,	Fernald L. Hanson, Somerset.
77	Freetown, Foxborough,	1909 1909	894,220 2,277,775	9 16	$\frac{2}{4}$ $\frac{3}{4}$	300 00 450 00	500 00 750 00	1,600 00	July 1,	Benj. F. Boyden, Box 15, Foxborough.	Mrs. Viola N. Burns, Freetown.
78	BillERICA, Stoneham,	1909 1909	2,435,799 5,052,490	15 26	2 days. 3 days.	300 00 450 00	416 66 <sup>4</sup> —	1,800 00	Sept. 1,	Maurice A. Buck, BillERICA,	Wilfred A. Smith, Stoneham.
79	Amesbury, Merrimac,	1909 1909	6,087,070 1,246,700	21 9	$\frac{3}{4}$ $\frac{2}{4}$	450 00 300 00	— 500 00	1,800 00	Aug. 1,	George W. Cate, Amesbury,	E. L. Jewell, Merrimac.

<sup>1</sup> Added in 1908.<sup>2</sup> Union No. 75 formed Sept. 20, 1909, by decree of State Board of Education.<sup>3</sup> Union No. 75 formed Sept. 20, 1909, by decree of State Board of Education.<sup>4</sup> Union without supervision 2 months during the year.

NOTE. — Of the foregoing unions, those numbered 27, 31, 46 and 59 were authorized by special acts of the Legislature.

<sup>2</sup> Union No. 73 formed May 16, 1905, by decree of State Board of Education.

## XI. — MASSACHUSETTS SCHOOL FUND.

The following statement shows the condition of the Massachusetts school fund: —

Amount of the fund Jan. 1, 1910, . . . . .	\$5,000,000 00
Amount of fund Dec. 31, 1910, . . . . .	5,000,000 00
Gross income for 1910, . . . . .	\$243,479 39
Paid for accrued interest on securities purchased, . . .	4,730 67
Net income, . . . . .	\$238,748 72
Paid to towns in the distribution of Jan. 25, 1911, . . .	\$238,748 72

The following table shows the amount of the principal of the Massachusetts school fund and the annual income from 1897 to 1910: —

YEAR.	Principal.	Income.
1897, . . . . .	\$4,070,548 14	\$189,808 71
1898, . . . . .	4,170,548 14	204,612 61
1899, . . . . .	4,270,548 14	208,462 61
1900, . . . . .	4,370,548 14	213,066 18
1901, . . . . .	4,470,548 14	366,656 51
1902, . . . . .	4,570,548 14	220,731 77
1903, . . . . .	4,670,548 14	197,379 93
1904, . . . . .	4,780,110 66	214,224 13
1905, . . . . .	4,880,110 66	219,379 32
1906, . . . . .	4,980,110 66	224,468 31
1907, . . . . .	5,000,000 00	228,621 22
1908, . . . . .	5,000,000 00	229,439 73
1909, . . . . .	5,000,000 00	231,173 87
1910, . . . . .	5,000,000 00	238,748 72



## XII. — REPORT OF TREASURER OF BOARD OF EDUCATION.

Dr.	APPROPRIATIONS AND EXPENDITURES FOR SUPPORT OF STATE NORMAL SCHOOLS.	Cr.
1910.	Expended for Normal School at: —	1910.
	Bridgewater, . . . . Fitchburg, . . . . Framingham, . . . . Hyannis, . . . . Lowell, . . . . North Adams, . . . . Salem, . . . . Westfield, . . . . Worcester, . . . . Normal Art (Boston), . . . .	Appropriation (chapter 451, Acts 1910), . . . . Received from city of Fitchburg, . . . .
	\$53,991 00 52,455 41 41,799 94 24,909 99 33,576 12 35,124 00 44,424 99 32,590 00 36,497 43 36,452 81	\$378,641 00 13,660 41
	\$391,821 69 479 72	\$392,301 41
	Balance unexpended, . . . .	Appropriation (chapter 451, Acts 1910), . . . .
	Bridgewater Normal School: — Salaries, . . . . Model School, . . . . Wages and labor, . . . . Buildings and grounds, . . . . School supplies, . . . . Miscellaneous, . . . .	\$28,398 63 7,417 04 6,759 99 9,272 20 1,883 15 259 99
	\$53,991 00	\$53,991 00

XII.—REPORT OF TREASURER OF BOARD OF EDUCATION—*Continued.*

DR.	APPROPRIATIONS AND EXPENDITURES FOR SUPPORT OF STATE NORMAL SCHOOLS — <i>Continued.</i>			CR.
1910.	1910.	1910.	1910.	
Fitchburg Normal School:—			Appropriation (chapter 451, Acts 1910), . . . . .	\$38,795 00
Salaries, . . . . .	\$21,121 25		Received from city of Fitchburg, . . . . .	13,660 41
Model school, . . . . .	14,552 41			
Wages and labor, . . . . .	5,537 42			
Buildings and grounds, . . . . .	7,431 55			
School supplies, . . . . .	2,742 11			
Lectures, etc., . . . . .	519 00			
Miscellaneous, . . . . .	551 67	\$52,455 41		\$52,455 41
Framingham Normal School:—			Appropriation (chapter 451, Acts 1910), . . . . .	\$41,876 00
Salaries, . . . . .	\$20,146 69			
Model school, . . . . .	6,846 10			
Wages and labor, . . . . .	5,201 40			
Buildings and grounds, . . . . .	7,731 28			
School supplies, . . . . .	1,500 31			
Lectures, etc., . . . . .	74 32			
Miscellaneous, . . . . .	299 84			
Balance unexpended, . . . . .	76 06	\$41,876 00		\$41,876 00
Hyannis Normal School:—			Appropriation (chapter 451, Acts 1910), . . . . .	\$24,910 00
Salaries, . . . . .	\$10,564 15			
Model School, . . . . .	2,656 93			
Wages and labor, . . . . .	2,499 94			
Buildings and grounds, . . . . .	4,754 88			

School supplies, . . . . .	1,198 26				
Lectures, etc., . . . . .	—				
Summer School and miscellaneous, . . . . .	3,235 83				
Balance unexpended, . . . . .	01		\$24,910 00		\$24,910 00
 Lowell Normal School:—					
Salaries, . . . . .	\$16,687 04			Appropriation (chapter 451, Acts 1910), . . . . .	\$33,765 00
Model school, . . . . .	6,951 81				
Wages and labor, . . . . .	3,018 84				
Buildings and grounds, . . . . .	3,807 87				
School supplies, . . . . .	2,453 04				
Lectures, etc., . . . . .	144 50				
Miscellaneous, . . . . .	513 02				
Balance unexpended, . . . . .	188 88		\$33,765 00		\$33,765 00
 North Adams Normal School:—					
Salaries, . . . . .	\$16,224 97			Appropriation (chapter 451, Acts 1910), . . . . .	\$35,124 00
Model school, . . . . .	4,113 65				
Wages and labor, . . . . .	5,234 59				
Buildings and grounds, . . . . .	5,393 42				
School supplies, . . . . .	1,983 62				
Lectures, etc., . . . . .	146 04				
Miscellaneous, . . . . .	2,027 71		\$35,124 00		\$35,124 00

XII. — REPORT OF TREASURER OF BOARD OF EDUCATION — *Continued.*

DR.	APPROPRIATIONS AND EXPENDITURES FOR SUPPORT OF STATE NORMAL SCHOOLS — <i>Concluded.</i>		CR.	
	1910.	1910.	Appropriation (chapter 451, Acts 1910),	Appropriation (chapter 451, Acts 1910),
Salem Normal School: —				
Salaries, . . . . .	\$24,493 65			\$44,425 00
Model school, . . . . .	5,670 87			
Wages and labor, . . . . .	3,239 44			
Buildings and grounds, . . . . .	5,190 60			
School supplies, . . . . .	3,283 76			
Lectures, etc., . . . . .	221 20			
Commercial department and miscellaneous, . . . . .	2,325 47			
Balance unexpended, . . . . .	01	\$14,425 00		\$44,425 00
Westfield Normal School: —				
Salaries, . . . . .	\$12,750 00			\$32,590 00
Model school, . . . . .	6,858 29			
Wages and labor, . . . . .	3,948 62			
Buildings and grounds, . . . . .	5,424 87			
School supplies, . . . . .	3,236 95			
Lectures, etc., . . . . .	54 60			
Miscellaneous, . . . . .	316 67	\$32,590 00		\$32,590 00
Worcester Normal School: —				
Salaries, . . . . .	\$17,424 52			\$36,500 00
Model school, . . . . .	1,878 77			
Wages and labor, . . . . .	2,570 37			

Buildings and grounds, . . .	10,445 50			
School supplies, . . .	3,456 51			
Lectures, etc., . . .	259 75			
Miscellaneous, . . .	462 01			
Balance unexpended, . . .	2 57		\$36,500 00	\$36,500 00
Normal Art School: —				
Salaries, . . .	\$28,633 90			
Evening school, . . .	688 00			
Wages and labor, . . .	3,350 22			
Buildings and grounds, . . .	2,963 49			
School supplies, . . .	173 23			
Lectures, etc., . . .	400 00			
Miscellaneous, . . .	243 97			
Balance unexpended, . . .	212 19		\$36,665 00	\$36,665 00
				Appropriation (chapter 451, Acts 1910), . . . . .

## APPROPRIATION AND EXPENDITURES FOR STATE AID TO NORMAL SCHOOL PUPILS.

1910. Jan.		1910.		
Amounts paid: —				
Bridgewater Normal School, . . .	\$517 44		Appropriation (chapter 451, Acts 1910), . . . . .	\$4,000 00
Fitchburg Normal School, . . .	117 60			
Framingham Normal School, . . .	258 72			
Hyannis Normal School, . . .	47 44			
Lowell Normal School, . . .	47 44			
Amount carried forward, . . .	\$988 64		Amount carried forward, . . .	\$4,000 00

## XII.—REPORT OF TREASURER OF BOARD OF EDUCATION—Continued.

Dr.	APPROPRIATION AND EXPENDITURES FOR STATE AID TO NORMAL SCHOOL PUPILS — Concluded.			Cr.
1910.	<i>Amount brought forward,</i>	\$988 64	1910.	<i>Amount brought forward,</i>
	North Adams Normal School, .	70 56		
	Salem Normal School, .	423 36		
	Westfield Normal School, .	470 40		
	Worcester Normal School, .	47 04		
	Bridgewater Normal School, .	745 89		
	Fitchburg Normal School, .	111 09		
	Framingham Normal School, .	285 66		
	Hyannis Normal School, .	95 22		
	Lowell Normal School, .	32 12		
	North Adams Normal School, .	95 22		
	Salem Normal School, .	238 05		
	Westfield Normal School, .	349 14		
	Worcester Normal School, .	47 61		
		\$4,000 00		\$4,000 00
June.				

## APPROPRIATIONS AND EXPENDITURES FOR SALARIES.

1910.	1910.	Appropriations for salaries of:—
David Snedden, .	\$6,500 00	Commissioner of Education, .
William Orr, .	3,375 00	Deputy commissioners, .
Charles A. Prosser, .	3,193 55	Agents and assistants, .
George H. Martin, .	3,750 00	
		\$6,500 00
		9,000 00
		15,000 00

		Clerical and messenger service,	9,500 00
John T. Prince, . . . . .	2,500 00		
James W. MacDonald, . . . . .	2,500 00		
Julius E. Warren, . . . . .	2,500 00		
Frederic L. Burnham, . . . . .	2,500 00		
Frank Waldo, . . . . .	2,400 00		
Florence M. Marshall, . . . . .	416 66		
Agnes C. M. Blake, . . . . .	1,500 00		
Escher E. Elwell, . . . . .	1,024 75		
George H. Varney, . . . . .	968 25		
Sarah A. Holt, . . . . .	750 00		
Grace E. Wyeth, . . . . .	625 33		
Maud E. Carney, . . . . .	52 00		
Lillian O'Connell, . . . . .	186 25		
L. C. Palmer, . . . . .	25 00		
Hazel Beverstock, . . . . .	8 75		
Ella L. Corliss, . . . . .	6 78		
Anne L. Kiley, . . . . .	4 00		
H. S. Richardson, . . . . .	4 84		
Alice E. Harrington, . . . . .	38 00		
Sarah A. Mahan, . . . . .	95 00		
Mabelle M. Boyd, . . . . .	2 59		
John G. Dolber, . . . . .	54 75		
Florence M. Henderson, . . . . .	11 81		
Marion A. Liston, . . . . .	83 27		
Katherine M. Jones, . . . . .	10 00		
Anna M. Murray, . . . . .	137 50		
Ursula F. Carleton, . . . . .	111 00		
Miriam P. Clark, . . . . .	94 35		
<i>Amount carried forward,</i> . . . . .	\$35,429 43	<i>Amount carried forward,</i>	\$40,000 00

## XII.—REPORT OF TREASURER OF BOARD OF EDUCATION—Continued.

DR. APPROPRIATIONS AND EXPENDITURES FOR SALARIES—Concluded. CR.

1910.	Amount brought forward,	\$35,429 43	1910.	Amount brought forward,	\$40,000 00
	Alecia Lucier,	6 10			
	Mary F. Buckley,	2 00			
	Weeks and Doten, stenographic services,	711 40			
	Balance unexpended,	3,851 07			\$40,000 00

## APPROPRIATION AND EXPENDITURES FOR TRAVELLING EXPENSES OF EMPLOYEES OF THE BOARD.

1910.	Paid:—	1910.	Appropriation (chapter 451, Acts 1910),	\$6,500 00
	David Snedden,	\$176 47		
	William Orr,	215 98		
	Charles A. Prosser,	230 32		
	George H. Martin,	29 92		
	John T. Prince,	296 28		
	James W. MacDonald,	466 30		
	Julius E. Warren,	547 79		
	Frederic L. Burnham,	469 12		
	Frank Waldo,	283 95		
	Florence M. Marshall,	3 56		
	Balance unexpended,	3,780 31		\$6,500 00



## APPROPRIATION AND EXPENDITURES FOR INCIDENTAL EXPENSES AND TRAVELLING EXPENSES OF MEMBERS OF THE BOARD.

1910.	1910.	Appropriation (chapter 451, Acts 1910),	\$10,000 00
Amounts paid for: —			
Printing, . . . . .	\$1,165 38		
Stationery and office supplies, . . . . .	603 46		
Postage and sundries, . . . . .	501 31		
Expressage, . . . . .	134 95		
Books and periodicals, . . . . .	272 53		
Telephone, . . . . .	353 38		
Newspaper clippings, . . . . .	110 00		
Advertising, . . . . .	50 45		
Typewriting machines, . . . . .	164 40		
Neostyle, . . . . .	50 00		
Lectures, . . . . .	153 88		
Water, . . . . .	17 50		
Miscellaneous, . . . . .	173 86		
Agricultural investigation: —			
Rufus W. Stimson, salary, . . . . .	1,361 08		
Rufus W. Stimson, travelling expenses, . . . . .	522 28		
Exhibit at meeting of National Education Association, . . . . .	304 70		
Amounts paid to: —			
Clinton Q. Richmond, . . . . .	86 96		
Frederick W. Hamilton, . . . . .	12 99		
Levi L. Conant, . . . . .	48 35		
Balance unexpended, . . . . .	3,912 54		
	\$10,000 00		\$10,000 00

XII. — REPORT OF TREASURER OF BOARD OF EDUCATION — *Continued.*  
 APPROPRIATION AND EXPENDITURES FOR TEACHERS' INSTITUTES.

Dr.			1910.		Cr.
1910.	Paid for expenses and instructors at institutes held at Dighton, Newburyport, Huntington, North Easton, Methuen, Rockland, Wrentham, Charlemont, Hyannis, Maynard, Lee, Wellesley, Brimfield and Gardner, . . .	\$1,333 40 666 60		Appropriation (chapter 451, Acts 1910), . . . . .	\$2,000 00
	Balance unexpended, . . . . .		\$2,000 00		\$2,000 00

APPROPRIATION AND EXPENDITURES FOR EDUCATION OF ADULT BLIND.

1910.			1910.		
	Paid for teachers and their expenses, . . . . .	\$5,009 38		Appropriation (chapter 451, Acts 1910), . . . . .	\$5,000 00
				Deficiency, . . . . .	9 38
					\$5,009 38

Dr.	APPROPRIATION AND EXPENDITURES FOR REGISTERS AND CENSUS BOOKS.			Cr.
	1910.		1910.	
	Expended for printing, and ex- pressage, . . . . .	\$1,249 85	Appropriation (chapter 451, Acts 1910), . . . . .	\$2,000 00
	Balance unexpended, . . . . .	750 15		\$2,000 00

## APPROPRIATION AND EXPENDITURES FOR RENT OF OFFICES.

	Boston Baptist Social Union, Trustees, . . . . .	\$2,840 52	1910.	Appropriation (chapter 451, Acts 1910), . . . . .	\$3,300 00
	Woman's Baptist Foreign Mission- ary Society, . . . . .	356 07			
	Balance unexpended, . . . . .	103 41			\$3,300 00

## APPROPRIATION AND EXPENDITURES FOR MEDICAL INSPECTION.

	Expended for printing and ex- pressage, . . . . .	\$762 62	1910.	Appropriation (chapter 451, Acts 1910), . . . . .	\$800 00
	Balance unexpended, . . . . .	37 38			\$800 00

## XII.—REPORT OF TREASURER OF BOARD OF EDUCATION—Continued.

Dr.	APPROPRIATION AND EXPENDITURES FOR EDUCATION OF DEAF CHILDREN.	1910.	Appropriation (chapter 451, Acts 1910), Deficiency,	Cr.
1909. Dec. 20,	American School:— 45 pupils, quarter beginning Dec. 1, 1909, . . . . .	\$3,093 75		\$110,000 00
	4 pupils, quarter beginning Sept. 1, 1909, . . . . .	275 00		4,764 04
1910. Jan. 10,	Sarah Fuller Home:— 8 pupils, quarter ending Jan. 1, 1910, . . . . .	469 97		
	Clarke School:— 105 pupils, quarter beginning Jan. 1, 1910, . . . . .	7,775 00		
19, Apr. 4,	Boston School:— 131 pupils, half year ending Jan. 31, 1910, . . . . .	17,325 24		
	Horace Mann School:— 157 pupils, Feb. 1 to July 1, 1910, . . . . .	11,687 50		
	American School:— 45 pupils, quarter beginning March 1, 1910, . . . . .	3,093 75		
28, May 31,	Sarah Fuller Home:— 9 pupils, quarter ending April 1, 1910, . . . . .	556 06		
	Clarke School:— 106 pupils, quarter ending July 1, 1910, . . . . .	9,145 00		

June 3,	Increase in cost of board and tuition from Dec. 1 to April 1, 1910, 106 pupils, . . .	1,683 36	
	Perkins Institution: —		
	Board and tuition of Nellie Win-itzsky (deaf, blind pupil), for year ending June, 1908, . . .	700 00	
	Year ending June, 1909, . . .	700 00	
	Board and tuition of Louis Yott (deaf, blind pupil), year ending June, 1908, . . .	700 00	
	Year ending June, 1909, . . .	700 00	
20,	Boston School: —		
	137 pupils, half year ending June 15, 1910, . . .	18,318 14	
	American School: —		
	44 pupils, quarter beginning June 1, 1910, . . .	3,025 00	
July 1,	Horace Mann School: —		
	Travelling expenses of pupils, Nov. 10, 1909, to March 10, 1910, . . .	1,274 09	
	American School: —		
	Clothing for 24 beneficiaries, Clarke School: —	235 82	
	106 pupils, quarter beginning July 1, 1910, . . .	9,025 00	
	<i>Amount carried forward,</i> . . .	\$89,782 68	<i>Amount carried forward,</i>
			\$114,764 04

XII.—REPORT OF TREASURER OF BOARD OF EDUCATION — *Concluded.*

DR.	<i>Amount brought forward,</i>	\$89,782 68	1910.	<i>Amount brought forward,</i>	Cr.
1910.					\$114,764 04
July 30,	Perkins Institution: — Board and tuition of Nellie Win- itzsky and Louis Yott, one year ending July 1, 1910, .	1,400 00			
Aug. 29,	Sarah Fuller Home: — 9 pupils, quarter ending July 1, 1910, . . . . .	562 50			
	Horace Mann School: — Travelling expenses of pupils, March 10–June 22, 1910, .	986 90			
Oct. 3,	Sarah Fuller Home: — 8 pupils, quarter ending Oct. 1, 1910, . . . . .	385 96			
22,	American School: — 39 pupils, quarter beginning Sept. 1, 1910, . . . . .	2,681 25			
Dec. 6,	Clarke School: — 104 pupils, quarter beginning Oct. 1, 1910, . . . . .	8,692 25			
	Horace Mann School: — 140 pupils, Sept. 1, 1910–Feb. 1, 1911, . . . . .	10,272 50			
		<u>\$114,764 04</u>			<u>\$114,764 04</u>

## XIII. — INDEPENDENT INDUSTRIAL SCHOOLS.

The Board of Education respectfully submits the following report as to the independent industrial schools thus far established, under chapter 505 of the Acts of 1906 and acts amendatory thereof and supplementary thereto. There are at the present time approved independent industrial schools in operation in sixteen cities and towns in the Commonwealth. Five schools have been approved by the Board since its last annual report to the General Court. These are:—

Worcester Evening Industrial School.  
Newton Evening Industrial School.  
Hyde Park Evening Industrial School.  
Somerville Industrial School (day).  
Boston School of Printing and Bookbinding (day).

A considerable part of the time of the agents of the Board has been given to addresses, investigations, conferences and correspondence, with reference to the establishment of new industrial schools. The following schools are at the present time in process of organization, looking to approval at some future time by the Board of Education:—

Cambridge Trade School for Girls (day).  
New Bedford Trade School for Girls (day).  
North Attleborough Industrial School (evening).  
Norwood Industrial School (part time).  
Somerville Industrial School (evening).  
Somerville Trade School for Girls (day).

The evening school at Pittsfield was discontinued at the close of the school year 1909–10. Classes in the household arts given during the school year 1909–10 by certain evening schools, which in the opinion of the Board of Education were not sufficiently industrial in character to justify State aid for the future, have been either abandoned or reorganized as to courses of study, methods of instruction and day occupations of members, so as to conform to the standards set by the Board.

A brief description of the present approved independent industrial schools follows.

1. *Beverly Industrial School*. — Established Oct. 21, 1907. The plan from the beginning was to offer both day and evening courses. The evening courses were discontinued at the close of the year 1908-09. The day courses, as conducted in 1909-10, were part-time courses, consisting of alternate weeks of shop work in the plant of the United Shoe Machinery Company and schoolroom instruction. The shop work consisted of machine shop practice. The schoolroom instruction consisted of industrial drawing, shop mathematics, industrial science, English, including business forms and practice and civic duties. In 1909-10, 50 boys were in attendance.

2. *Boston School of Printing and Bookbinding*. — Established March, 1910; reorganized as an independent industrial school September, 1910; approved Dec. 9, 1910. This school was organized in good faith by the Boston School Committee, with the expectation that, after a period of experimentation and development, it should be reorganized and approved by the Board of Education as an independent industrial school. The teachers of printing and bookbinding are practical workmen, thoroughly versed in their trade. The advisory committee of nine members, consisting of employing or journeymen printers and bookbinders, have been active in counselling with the officers and teachers of the school. Three courses of study are offered: a four-year course in printing, a four-year course in printing and bookbinding and a four-year course in bookbinding and printing. The instruction covers shop practice in printing or bookbinding as a handicraft, together with drawing in design, English, the mathematics of the trade, industrial history, spelling, current events and civics. The present enrollment is 38, with a capacity of 40 pupils. This school is in temporary quarters at the old East Boston High School building. Plans are under consideration by which, at an early date, the work may be transferred to a more commodious building.

3. *Boston Trade School for Girls*. — Established Sept. 10, 1909. This school had been carried on for a number of years as a private institution, and was transferred to the city of Boston by its founders and supporters. After the transfer it was installed in a new building furnished by the city, at an expense



of over \$40,000. It has courses in dressmaking, millinery, the manufacture of clothing and straw hats; and in hygiene and academic branches having due relation to the work. A moderate amount of domestic science is also taught each girl. The registration between Sept. 15 and Dec. 1, 1909, was 293.

4. *Boston Evening Industrial School*. — Established Dec. 23, 1907. During the year 1909–10 courses were given in machine work for foundrymen (jig and tool making), building estimating, interior decorating, sheet metal and ship draughting, machine drawing, life sketching and design. The total registration in 1909–10 was 992. In the fall of 1910 approved courses in pattern making, forging and janitor work were added to the work.

5. *Brockton Industrial School (Evening)*. — Established Oct. 6, 1909. The school has courses in plain sewing, dressmaking, millinery, mechanical drawing and engineering. In 1909–10 there were enrolled 560 students.

6. *Cambridge Industrial School (Evening)*. — Established Oct. 14, 1907. In it have been organized two distinct types of work. For men, courses were offered in machine shop work, wood turning, pattern making, forge practice, freehand drawing, architectural drawing, machine drawing and shop mathematics. In 1909–10 the registration was 214, in addition to that of the freehand drawing classes. The courses for girls and women in sewing, dressmaking and millinery had a registration of about 500. In the men's classes the extensive facilities of an existing manual training high school were employed, while in the girls' classes new equipment was provided.

7. *Chicopee Industrial School (Evening)*. — Established Sept. 8, 1908. Courses are given in machine shop work, pattern making, wood working, cabinet work, wood turning and industrial drawing. About \$13,000 was spent in equipment, most of which is also used in a day industrial school conducted under local auspices, though some of the most important machines were put in especially for evening schools. In 1909–10, 130 students registered.

8. *Hyde Park Evening Industrial School*. — Established Oct. 7, 1910; approved Nov. 11, 1910. The evening industrial

classes are practically confined to boys and men already engaged in Hyde Park industries. An advisory committee, from citizens of the town, has been appointed, consisting of those who have had experience in the metal working trades, either as workmen or directors of workmen. The instructors in the school, two in number, are men who have had long and successful experience in the machinist trade and creditable technical training. The school is to be maintained for a session of twenty-five weeks each year, and offers therein one hundred hours of instruction in each course. The course of study, which has met with the approval of the advisory committee and of the State Board covers shop drawing, shop science and shop mathematics, including mensuration, strength of materials and simple formulæ used in problems dealing with horse-power, transmission of power and elementary calculations.

9. *Lawrence Industrial School (Day and Evening).* — Established Jan. 20, 1908. The plan from the beginning was to establish both day and evening classes. This school has courses in textile arts, mechanical arts and in trades for girls. During 1909-10, 23 specific courses were offered, and 143 pupils enrolled, in the day classes; and 23 specific courses, with an enrollment of 698 men, in the evening classes. The evening courses for men in the Lawrence school were as follows: woolen and worsted yarn manufacturing, as far as combing; woolen and worsted yarn manufacturing, combing and spinning; woolen and worsted loom fixing and calculations; cotton spinning; cotton loom fixing and calculations; experimental dyeing; industrial chemistry; mill arithmetic and mill bookkeeping; elementary textile design; advanced textile design; elementary cloth calculations and fabric analysis; advanced cloth calculations and fabric analysis; elementary electricity; steam engineering for engineers; steam engineering for firemen; arithmetic for firemen and engineers; arithmetic for firemen and engineers working at night; steam engineering for firemen who work at night; blue-print reading; machine sketching and arithmetic for metal workers and wood workers. General course: worsted and woolen loom fixing and calculations; cotton loom fixing and calculations; industrial and shop English

and history; estimating construction supplies and blue print reading for bricklayers, masons and contractors. The evening courses for women were plain sewing, shirt-waist making, shirt making, making children's clothing, garment making. The registration was 578. In 1908, 1909 and 1910 new equipment, worth about \$50,000, was secured for the school. The teachers are men and women from the trades.

10. *Montague Industrial School (Day)*. — Established June 30, 1908. Courses in agriculture, carpentry and mechanical work for boys, and domestic science and domestic arts for girls, are given. In 1909-10, 36 pupils were registered.

11. *Natick Industrial School (Evening)*. — Established Sept. 28, 1909. Courses in sewing, dressmaking, cooking and advanced cooking are offered. In 1909-10 only cooking classes were offered, the registration being 92. Cooking and sewing equipments already installed for day school pupils were utilized, and additional equipment supplied.

12. *New Bedford Industrial School (Day and Evening)*. — Established Nov. 4, 1907. It was the plan from the beginning to establish both day and evening courses. The school has courses in metal working, wood working, industrial drawing and applied science, and in technical work related to the practical work. It has a well-equipped machine shop, carpentry shop, drawing room, and science laboratories, in addition to facilities for a variety of practical courses for evening students. The evening instruction to men included the following subjects: house framing, architectural drawing, shop drafting, shop mathematics, motors, gas engines, steam practice, machine shop work. The evening instruction for women included dressmaking and millinery. In 1909-10, 65 pupils were in attendance in day classes; and the enrollment in evening classes was 364.

13. *Newton Industrial School (Day and Evening)*. — Established Dec. 28, 1908. The school opened Feb. 1, 1909, with courses in shop work (wood work) and the associated drawing, arithmetic and English, together with industrial geography and elementary science. In the fall of 1909 there was an enrollment of 18 boys, fourteen years of age and upwards. In

December, 1909, machine work and advanced wood work were added, with a total enrollment of 51. The school is maintained under city auspices, but the expense of maintenance is almost entirely met by private donations.

14. *Newton Evening Independent Industrial School.* — Established in October, 1910; approved Nov. 11, 1910. The school was organized in the fall of 1909 in good faith, and with the expectation that it would ultimately meet the approval of the Board of Education, and become an independent industrial school. The sessions of the school are held in the Newton Technical High School, and the equipment of that institution is used for demonstration purposes and for shop practice. The instructors, well prepared by practical experience and by previous teaching for the work, have been approved by the Board of Education. An advisory committee of five members, who have had experience in the trades, either as employer or employee, has been appointed, and is co-operating with the local school authorities in the management of the school. The evening classes thus far organized offer courses in mechanical drawing, machine design and shop mathematics, industrial drawing and domestic arts, including cooking and housekeeping, sewing and dressmaking. The bulk of the membership in each of the domestic art classes consists of those who are engaged during the day in occupations for which the evening instruction gives preparation, either directly or indirectly. The total registration is 194, 117 being men and 77, women.

15. (*Northampton*) *Smith's Agricultural School and Northampton School of Industries.* — Established March 15, 1907. Courses are maintained in mechanic arts, agriculture and household arts. The school has buildings worth probably more than \$90,000, and the equipment is adequate. The school was based upon a fund which has been accumulating for many years, but has received substantial support from the taxpayers of Northampton. The registration in September, 1909, was 107; and in January, 1910, 101.

16. *Somerville Industrial School.* — Established Sept. 1, 1910; approved Dec. 9, 1910. This school thus far offers instruction in wood working and metal working for boys. The

local authorities plan to add other courses to the day school, and part-time evening work for those employed during the day. At an early date a trade school for girls will be inaugurated. The instructors, three in number, bring approved experience and preparation to their teaching. An advisory committee, composed of men representing both trades taught, has been appointed. The courses of study include shop practice in wood working and metal working; shop drawing, growing out of shop problems; mechanical instruction and shop science, comprising the study of the construction, operation and functions of the various parts of the complete machine; the elementary principles of physics and chemistry that are of value in the shop; industrial history; and civics. Forty-four pupils have been enrolled in the school, which has a total capacity of 60.

17. *Taunton Industrial School (Evening)*. — Established Dec. 23, 1907. Courses have been given in modelling, sewing and dressmaking. In the fall of 1910 courses in industrial drawing and design were added, and the courses in sewing and dressmaking given the previous year were omitted from the industrial school and are now given in the regular city evening schools. In 1909-10, 120 pupils were enrolled.

18. *Walpole Industrial School (Evening)*. — Established Dec. 11, 1908. The school offers courses in mechanical drawing, architectural drawing and cooking, and had an attendance of about 14 pupils during 1909-10.

19. *Worcester School of Trades (Day and Part Time)*. — Established Jan. 2, 1909. An appropriation of \$125,000 was made by the city of Worcester for the building, equipment and maintenance of the school. The day school was opened on Feb. 8, 1910. The practical shop work embraces both wood and metal working. The associated courses include shop computations, formulas, geometry, study of triangles, commercial arithmetic, bookkeeping, commercial geography, commercial law, natural science, strength of materials, English, history of commerce and invention, good citizenship, drawing, jig and fixture design and shop instruction. The registration of February, 1910, was 52 boys. In May, 1910, the number was increased to 79.

20. *Worcester Industrial School (Evenings)*. — Established and approved by the Board of Education in September, 1910. This school was inaugurated by the Board of Trustees of the Worcester School of Trades, of which it is an extension, for the benefit of men employed in the trades. The instructors in the evening classes are all men who have had years of practical experience in the trades. Only machine shop courses are thus far offered. These include lathe work, milling and gear cutting, planer and shaper work, grinder work, pattern making, house framing and estimating, gasoline engine practice, mechanical drawing, blue print reading and shop mathematics. Classes are held two evenings of one week, and three of the next. The term is twenty-seven weeks. The total registration is 215.

The Board of Education approves of the location, course of study and methods of instruction, as provided for in the statute, of all the schools in the above list. It recommends for reimbursement up to Dec. 1, 1910, all the cities and towns maintaining the schools that were in existence during the school year 1909-10. The schools that have been established and approved by the Board since the 1st of September, 1910 (Hyde Park Evening Industrial School, Newton Evening Industrial School, Somerville Industrial School (day), Boston School of Printing and Bookbinding (day), Worcester Evening Industrial School), have been approved tentatively, with the expectation that they will during the current year be under the supervision of the agents of the Board. If these schools conform to the standards established by the Board, the cities and towns maintaining them will be recommended for reimbursement for expenditures for the school year 1910-11 by the next session of the General Court.

In approving of the work of the independent industrial schools of the State, the Board has looked upon them as being in a sense experiment stations, where, in addition to the valuable industrial training given to their pupils, standards in industrial and agricultural education were being developed. For this reason approval has been given to such schools, both by the Commission on Industrial Education and by the Board of Education, not permanently, but from year to year. The Board is engaged

in establishing its own standards in the field of vocational education. Those criteria are of necessity in process of evolution both here and in other States and countries.

It is the intent of the Board to develop its own requirements in the light of the experience of industrial schools of various types established and approved from time to time. To these all the schools will be expected to conform, and the decision with regard to the approval or disapproval of such schools will be made from year to year on basis of theories and principles with respect to effective vocational education which the Board may see fit to adopt in the discharge of its responsibility to the Commonwealth. It is not improbable that certain schools which have been approved in this report will, unless rather pronounced changes in equipment, course of study and methods of instruction are made, not be able to secure the approval of the Board for the future.

In presenting figures as to reimbursement to which the cities and towns operating approved independent industrial schools are entitled, there is first given a statement showing the amount that should be appropriated in each case under chapter 540 of the Acts of 1909 to meet the expenditures incurred during the year previous to June 30, 1910. The second statement shows the amount which should be appropriated to meet expenditures incurred from July 1, 1910, to Nov. 30, 1910, inclusive.

The Board of Education submits the matter in this way for the convenience of the Legislature, and in order that appropriations due such cities and towns up to Nov. 30, 1910, may be made, if the Legislature regard this as the proper course. The Board recommends that such cities and towns be reimbursed for expenditures incurred from July 1, 1909, to Nov. 30, 1910, inclusive. It seems probable that prompt reimbursement of moneys expended in behalf of the Commonwealth for the maintenance of the industrial schools will measurably promote the development of industrial education both by municipalities now maintaining, and municipalities contemplating, the establishment of such schools.

The statements are as follows:—

*Financial Statement of the Independent Industrial Schools.  
(Amounts expended for Maintenance and Reimbursement  
due for the Period previous to July 1, 1910.)*

This statement is based upon the affidavits of the local authorities of the schools, giving expenditures for maintenance out of funds raised by local taxation for the period above indicated. Cities and towns operating such schools are, under chapter 540 of the Acts of 1909, entitled to reimbursement to the extent of one-half such expenditures. The city of Northampton has been omitted from the list, since an appropriation was made by the last Legislature to reimburse that municipality for expenditures incurred in the maintenance of the Smith Agricultural School for the period from July 1, 1909, to June 30, 1910, inclusive. Most of the support of the Smith Agricultural School and of the Newton Day Industrial School is derived from private philanthropy. A small amount of money raised by local taxation was expended by the city of Newton for the support of its school during the school year 1909-10, for which that municipality has not asked reimbursement. A proposed resolve for the reimbursement of cities and towns for the amounts expended in the maintenance of independent industrial schools set forth in the table given below will be found on page 159 of this report. The statement follows:—

SCHOOL.	Period of operation.	Cost of maintenance met by local taxation.	Reimbursement due.
Beverly, . .	Day school: July 1, 1909, to June 30, 1910, . .	\$3,031 03	\$1,515 52
Boston, . .	Day school: July 1, 1909, to June 30, 1910, . .	12,988 94	6,494 47
Boston, . .	Evening school: July 1, 1909, to June 30, 1910, . .	14,057 17	7,028 59
Brockton, . .	Evening school: July 1, 1909, to June 30, 1910, . .	2,433 03	1,216 52
Cambridge, . .	Evening school: July 1, 1909, to June 30, 1910, . .	6,317 40	3,158 70
Chicopee, <sup>1</sup> . .	Evening school: Jan. 1, 1910, to June 30, 1910, . .	1,261 63	630 82

<sup>1</sup> A few municipalities were reimbursed for expenditures beyond June 30, 1909, by appropriations made by the last Legislature as follows: Chicopee, up to Dec. 31, 1909; Natick, up to Jan. 31, 1910; Newton, up to Dec. 31 1909; Northampton (Smith Agricultural School) up to June 30, 1910. All other cities and towns were reimbursed by the last Legislature up to but not beyond June 30, 1909.



SCHOOL.	Period of operation.	Cost of maintenance met by local taxation.	Reimbursement due.
Lawrence, . .	Day and evening: July 1, 1909, to June 30, 1910, .	\$15,072 07	\$7,536 04
Montague, . .	Day school: July 1, 1909, to June 30, 1910, . .	4,407 68	2,203 84
Natick, <sup>1</sup> . .	Evening school: Feb. 1, 1910, to June 30, 1910, .	155 39	77 70
New Bedford, <sup>2</sup> .	Day and evening: March 29, 1909, to June 30, 1910,	15,692 89	7,846 45
Pittsfield, . .	Evening school: July 1, 1909, to June 30, 1910, .	572 07	286 04
Taunton, . .	Evening school: July 1, 1909, to June 30, 1910, .	477 79	238 90
Walpole, . .	Evening school: July 1, 1909, to June 30, 1910, .	123 45	61 73
Worcester, . .	Day school: July 1, 1909, to June 30, 1910, . .	7,340 95	3,670 48
Totals, . .	. . . . .	\$83,931 49	\$41,965 80

<sup>1</sup> See footnote on page 152.

<sup>2</sup> The maintenance expenditures for the New Bedford day and evening school given above for the period from March 29, 1909, to June 30, 1909, were for the services of a principal, acting as supervisor, while the day school was being established and equipped in its present quarters.

*Financial Statement of Independent Industrial Schools.  
(Amounts expended for Maintenance and Reimbursement  
due for the Period beginning July 1, 1910, and ending  
Nov. 30, 1910.)*

1. This statement does not include the cities and towns maintaining schools that have been given tentative approval by the Board of Education since the beginning of the school year 1910-11. The cities and towns not recommended for reimbursement for expenditures in the maintenance of such schools are Newton (Evening Industrial School), Hyde Park (Evening Industrial School), Somerville (Day Industrial School) and Boston (School of Printing and Bookbinding). These schools are largely in process of organization and development as to equipment, courses of study and methods of instruction. During the current school year they will be under the supervision of the agents of the Board of Education and be brought to conform to the requirements for vocational education adopted by the Board as a condition of final approval, looking to reimbursement by the Commonwealth at the next session of the Legislature. It therefore seems advisable that no attempt be made to reimburse at the present time the cities and towns maintaining such schools for maintenance expenditures incurred during

the brief period from September to November inclusive of the present school year.

2. This statement is based upon the affidavits of the local authorities of the schools, giving expenditures for maintenance out of funds raised by local taxation for the period above indicated. Such schools are, under chapter 540 of the Acts of 1909, entitled to reimbursement to the extent of one-half such expenditures. A proposed resolve for the reimbursement of cities and towns for the amount expended in the maintenance of independent industrial schools in the table given below will be found on page 160 of this report.

SCHOOL.	Period of operation.	Cost of maintenance met by local taxation.	Reimbursement due.
Beverly, . . .	Day school: July 1, 1910, to Nov. 30, 1910, . . .	\$1,572 34	\$786 17
Boston, . . .	Day school: July 1, 1910, to Nov. 30, 1910, . . .	6,313 48	3,156 74
Boston, . . .	Evening school: July 1, 1910, to Nov. 30, 1910, . . .	2,308 34	1,154 17
Brockton, . . .	Evening school: July 1, 1910, to Nov. 30, 1910, . . .	707 91	353 96
Cambridge, . . .	Evening school: July 1, 1910, to Nov. 30, 1910, . . .	2,039 12	1,019 56
Chicopee, . . .	Evening school: July 1, 1910, to Nov. 30, 1910, . . .	913 67	456 84
Lawrence, . . .	Day and evening: July 1, 1910, to Nov. 30, 1910, . . .	6,789 35	3,394 68
Montague, . . .	Day school: July 1, 1910, to Nov. 30, 1910, . . .	1,676 19	838 10
New Bedford, . . .	Day and evening: July 1, 1910, to Nov. 30, 1910, . . .	6,233 17	3,116 59
Taunton, . . .	Evening school: July 1, 1910, to Nov. 30, 1910, . . .	427 74	213 87
Worcester, . . .	Day and evening: July 1, 1910, to Nov. 30, 1910, . . .	7,908 72	3,954 36
Totals, . . .	. . . . .	\$36,890 03	\$18,445 04

It is the duty of the Board to submit to the Legislature a statement of the amounts which cities and towns are entitled to receive by way of reimbursement, under section 4 of chapter 572 of the Acts of 1908. This section provides that any resident of Massachusetts may attend an independent industrial school in some other city or town (provided there is no such school in his own city or town), "upon payment by the city or town of his residence of such tuition fee as may be fixed by" the Commission on Industrial Education (the Board of Education). Under this section the Commonwealth is to repay the city or town one-half of all such payments.

The following is a statement of the payments for the tuition of the non-resident pupils of independent industrial schools for the school year 1909-10, actually made by cities and towns under the act of 1908, and of the amounts that should be appropriated by the Commonwealth by way of reimbursement to such cities and towns. The Board of Education approved the attendance and fixed the tuition for such pupils, as provided by the statute. A proposed act for the reimbursement of cities and towns for the amounts expended for the tuition set forth in the table given below will be found on page 161 of this report.

*Statement of Reimbursement due to Cities and Towns for the Payment of Claims for Tuition in the Independent Industrial Schools for the School Year 1909-10.*

*Boston Trade School for Girls.*

One-half of the tuition at the Boston Trade School for Girls of 41 pupils, at \$8 per month, as follows (tuition paid): —

CITY OR TOWN.	Pupils.	Total amount of tuition paid.	Reimbursement due.
Newton, . . . . .	1	\$76 27	\$38 14
Cambridge, . . . . .	10	550 97	275 49
Somerville, . . . . .	8	446 09	223 05
Everett, . . . . .	4	135 74	67 87
Quincy, . . . . .	1	34 94	17 47
Lynn, . . . . .	1	76 27	38 14
Malden, . . . . .	1	42 67	21 34
Dedham, . . . . .	2	109 87	54 94
Westwood, . . . . .	2	58 94	29 47
Belmont, . . . . .	1	36 27	18 14
Melrose, . . . . .	1	76 27	38 14
Sharon, . . . . .	2	128 54	64 27
Winchester, . . . . .	1	4 00	2 00
Wakefield, . . . . .	1	76 27	38 14
Hudson, . . . . .	1	12 00	6 00
Brookline, . . . . .	3	84 27	42 14
Milton, . . . . .	1	17 60	8 80
Totals, . . . . .	—	\$1,966 98	\$983 54

*Lawrence Industrial School.*

One-half of the tuition paid at the Lawrence Industrial School, at \$100 per year for day school instruction and \$25 per year for night school instruction:—

CITY OR TOWN.	Pupils.	Total amount of tuition paid.	Reim- bursement due.
North Reading, . . . . .	3	\$67 50	\$33 75
Methuen, . . . . .	23	900 00	450 00
Haverhill, . . . . .	6	390 00	195 00
North Andover, . . . . .	33	700 00	350 00
Andover, . . . . .	3	75 00	37 50
Dracut, . . . . .	1	30 00	15 00
Totals, . . . . .	—	\$2,162 50	\$1,081 25

*Montague Agricultural High School.*

One-half of the tuition paid at the Montague Agricultural High School, for 12 pupils, at \$60 per year, as follows:—

CITY OR TOWN.	Pupils.	Total amount of tuition paid.	Reim- bursement due.
Leverett, . . . . .	6	\$285 00	\$142 50
Sunderland, . . . . .	4	222 00	111 00
Erving, . . . . .	1	60 00	30 00
Wendell, . . . . .	1	60 00	30 00
Totals, . . . . .	—	\$627 00	\$313 50

*New Bedford Industrial School.*

One-half of the tuition paid at the New Bedford Industrial School, at \$15 per month for day school instruction and \$32 per year for night school instruction:—

CITY OR TOWN.	Pupils.	Total amount of tuition paid.	Reim- bursement due.
Fairhaven, . . . . .	1	\$135 00	\$67 50
Rochester, . . . . .	1	135 00	67 50
Marion, . . . . .	1	35 00	17 50
Totals, . . . . .	—	\$305 00	\$152 50

*Smith Agricultural School.*

One-half of the tuition paid at the Smith Agricultural School, for 32 pupils, at \$100 per year or \$35 per term, as follows:—

CITY OR TOWN.	Pupils.	Total amount of tuition paid.	Reimbursement due.
Adams, . . . . .	1	\$100 00	\$50 00
Amherst, . . . . .	4	400 00	200 00
Ashfield, . . . . .	1	100 00	50 00
Charlemont, . . . . .	1	100 00	50 00
Chester, . . . . .	1	100 00	50 00
Chesterfield, . . . . .	1	100 00	50 00
Deerfield, . . . . .	2	140 00	70 00
Greenfield, . . . . .	1	35 00	17 50
Hadley, . . . . .	2	170 00	85 00
Hatfield, . . . . .	4	335 00	167 50
Plainfield, . . . . .	1	35 00	17 50
Southwick, . . . . .	2	135 00	67 50
Westhampton, . . . . .	7	611 43	305 72
Whately, . . . . .	1	100 00	50 00
Williamsburg, . . . . .	3	205 00	102 50
Totals, . . . . .	—	\$2,666 43	\$1,333 22

*Worcester Trade School.*

One-half of the tuition paid at the Worcester Trade School, at \$135 per year for day school instruction and \$32 per year for night school instruction:—

CITY OR TOWN.	Pupils.	Total amount of tuition paid.	Reimbursement due.
Paxton, . . . . .	2	\$78 75	\$39 38
Leicester, . . . . .	1	22 50	11 25
Shrewsbury, . . . . .	1	22 50	11 25
Totals, . . . . .	—	\$123 75	\$61 88

All the tuition fees for the school year 1909-10 due to all the cities and towns maintaining independent industrial schools, except certain sums due the city of Boston, have been paid.

To this city amounts are still due, for which, when paid by the cities and towns, reimbursement to the extent of one-half should be made by the Commonwealth, as follows:—

*Boston Trade School for Girls.*

One-half of the tuition at the Boston Trade School for Girls, of 10 pupils, at \$8 per month, as follows (tuition not yet paid, but for which, when paid, reimbursement should be provided):—

CITY OR TOWN.	Pupils.	Total amount of tuition (not paid).	Reimbursement due (one-half of tuition when paid).
Chelsea, . . . . .	2	\$121 07	\$60 54
Winthrop, . . . . .	7	390 73	195 37
Waltham, . . . . .	1	44 27	22 14
Totals, . . . . .	—	\$556 07	\$278 05

Total appropriations necessary for the reimbursement by the Commonwealth for non-resident pupils attending independent industrial schools during the school year 1909-10:—

For amounts already paid by the towns and cities:—

Boston Trade School for Girls, . . . . .	\$983 54
Lawrence Industrial School, . . . . .	1,081 25
Montague Agricultural High School, . . . . .	313 50
New Bedford Industrial School, . . . . .	152 50
Smith Agricultural School, . . . . .	1,333 22
Worcester Trade School, . . . . .	61 88

For amounts not yet paid but due from towns and cities:—

Boston Trade School for Girls, . . . . .	278 05
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Total, . . . . .	\$4,203 94
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The following is a statement of the total appropriation necessary in order that the Commonwealth may reimburse all claims due cities and towns for the maintenance of independent industrial schools during the period previous to Dec. 1, 1910, and for the payment of tuition at such schools for the school year 1909-10:—

Appropriation necessary to reimburse cities and towns for the maintenance expenditures of schools from July 1, 1909, to June 30, 1910, . . . . .	\$41,965 80
Appropriation necessary to reimburse cities and towns for the maintenance expenditures of schools from July 1, 1910, to Nov. 30, 1910, . . . . .	18,445 04
Appropriation necessary to reimburse cities and towns for the payment of tuition in such schools, . . . . .	4,203 94
	<hr/>
Total, . . . . .	\$64,614 78

### *Recommendations.*

In order that the Commonwealth may reimburse the cities and towns in the amounts due them, set forth in the foregoing statements and recommendations, by way of reimbursement under section 5 of chapter 505 of the Acts of 1906, and chapter 540 of the Acts of 1909, it is the intention of the Board of Education to present for the consideration of the Legislature, with the recommendation that they be passed, the three resolves given below. The first of these resolves provides reimbursement for cities and towns for the payment of maintenance expenditures of independent industrial schools for the period previous to July 1, 1910. The second of these resolves provides reimbursement for cities and towns for such expenditures from July 1, 1910, to Nov. 30, 1910, inclusive. The third of these resolves provides reimbursement for cities and towns for moneys paid for tuition fees in independent industrial schools for the school year 1909-10. These resolves follow: —

A RESOLVE TO PROVIDE APPROPRIATIONS FOR THE MAINTENANCE OF CERTAIN INDEPENDENT INDUSTRIAL SCHOOLS FOR THE PERIOD PREVIOUS TO JULY 1, 1910.

*Be it enacted, etc., as follows:*

SECTION 1. The sums hereinafter mentioned are appropriated, to be paid out of the treasury of the commonwealth from the ordinary revenue, for meeting the commonwealth's proportion of the cost of maintenance of independent industrial schools for the period previous to July first, nineteen hundred and ten, in certain cities and towns, under the authority of chapter five hundred and forty of the acts of nineteen hundred and nine: —

To the city of Beverly, the sum of one thousand five hundred fifteen dollars and fifty-two cents.

To the city of Boston, the sum of thirteen thousand five hundred twenty-three dollars and six cents.

To the city of Brockton, the sum of one thousand two hundred sixteen dollars and fifty-two cents.

To the city of Cambridge, the sum of three thousand one hundred fifty-eight dollars and seventy cents.

To the city of Chicopee, the sum of six hundred thirty dollars and eighty-two cents.

To the city of Lawrence, the sum of seven thousand five hundred thirty-six dollars and four cents.

To the town of Montague, the sum of two thousand two hundred three dollars and eighty-four cents.

To the town of Natick, the sum of seventy-seven dollars and seventy cents.

To the city of New Bedford, the sum of seven thousand eight hundred forty-six dollars and forty-five cents.

To the city of Pittsfield, the sum of two hundred eighty-six dollars and four cents.

To the city of Taunton, the sum of two hundred thirty-eight dollars and ninety cents.

To the town of Walpole, the sum of sixty-one dollars and seventy-three cents.

To the city of Worcester, the sum of three thousand six hundred seventy dollars and forty-eight cents.

SECTION 2. This act shall take effect upon its passage.

A RESOLVE TO PROVIDE APPROPRIATIONS FOR THE MAINTENANCE OF CERTAIN INDEPENDENT INDUSTRIAL SCHOOLS FOR THE PERIOD BETWEEN JULY 1, 1910, AND NOV. 30, 1910, INCLUSIVE.

*Be it enacted, etc., as follows:*

SECTION 1. The sums hereinafter mentioned are appropriated, to be paid out of the treasury of the commonwealth from the ordinary revenue, for meeting the commonwealth's proportion of the cost of maintenance of independent industrial schools for the period between July first, nineteen hundred and ten, and November thirty, nineteen hundred and ten, inclusive, in certain cities and towns, under the authority of chapter five hundred and forty of the acts of nineteen hundred and nine:

To the city of Beverly, the sum of seven hundred eighty-six dollars and seventeen cents.

To the city of Boston, the sum of four thousand three hundred ten dollars and ninety-one cents.

To the city of Brockton, the sum of three hundred fifty-three dollars and ninety-six cents.

To the city of Cambridge, the sum of one thousand nineteen dollars and fifty-six cents.



To the city of Chicopee, the sum of four hundred fifty-six dollars and eighty-four cents.

To the city of Lawrence, the sum of three thousand three hundred ninety-four dollars and sixty-eight cents.

To the town of Montague, the sum of eight hundred thirty-eight dollars and ten cents.

To the city of New Bedford, the sum of three thousand one hundred sixteen dollars and fifty-nine cents.

To the city of Taunton, the sum of two hundred thirteen dollars and eighty-seven cents.

To the city of Worcester, the sum of three thousand nine hundred fifty-four dollars and thirty-six cents.

SECTION 2. This act shall take effect upon its passage.

A RESOLVE TO PROVIDE APPROPRIATIONS FOR THE REIMBURSEMENT OF EXPENDITURES FOR TUITION IN CERTAIN INDEPENDENT INDUSTRIAL SCHOOLS.

*Be it enacted, etc., as follows:*

SECTION 1. The sums hereinafter mentioned are appropriated, to be paid out of the treasury of the commonwealth from the ordinary revenue, for meeting the commonwealth's proportion of the cost of tuition in independent industrial schools paid by certain cities and towns, under the authority of section four of chapter five hundred and seventy-two of the acts of nineteen hundred and eight, to wit:—

For one-half the tuition of pupils attending the Boston trade school for girls during the school year nineteen hundred and nine to nineteen hundred and ten, due the following towns, to wit:—

To the city of Newton, the sum of thirty-eight dollars and fourteen cents.

To the city of Cambridge, the sum of two hundred seventy-five dollars and forty-nine cents.

To the city of Somerville, the sum of two hundred twenty-three dollars and five cents.

To the city of Everett, the sum of sixty-seven dollars and eighty-seven cents.

To the city of Quincy, the sum of seventeen dollars and forty-seven cents.

To the city of Lynn, the sum of thirty-eight dollars and fourteen cents.

To the city of Malden, the sum of twenty-one dollars and thirty-four cents.

To the town of Dedham, the sum of fifty-four dollars and ninety-four cents.

To the town of Belmont, the sum of eighteen dollars and fourteen cents.

To the town of Westwood, the sum of twenty-nine dollars and forty-seven cents.

To the city of Melrose, the sum of thirty-eight dollars and fourteen cents.

To the town of Sharon, the sum of sixty-four dollars and twenty-seven cents.

To the town of Winchester, the sum of two dollars.

To the town of Wakefield, the sum of thirty-eight dollars and fourteen cents.

To the town of Hudson, the sum of six dollars.

To the town of Brookline, the sum of forty-two dollars and fourteen cents.

To the town of Milton, the sum of eight dollars and eighty cents.

For one-half the tuition of pupils attending the Lawrence industrial school during the school year nineteen hundred and nine to nineteen hundred and ten, due the following towns, to wit:—

To the town of North Reading, the sum of thirty-three dollars and seventy-five cents.

To the town of Methuen, the sum of four hundred fifty dollars.

To the city of Haverhill, the sum of one hundred ninety-five dollars.

To the town of North Andover, the sum of three hundred fifty dollars.

To the town of Andover, the sum of thirty-seven dollars and fifty cents.

To the town of Dracut, the sum of fifteen dollars.

For one-half the tuition of pupils attending the Montague agricultural high school during the school year nineteen hundred and nine to nineteen hundred and ten, due the following towns, to wit:—

To the town of Leverett, the sum of one hundred forty-two dollars and fifty cents.

To the town of Sunderland, the sum of one hundred eleven dollars.

To the town of Erving, the sum of thirty dollars.

To the town of Wendell, the sum of thirty dollars.

For one-half the tuition of pupils attending the New Bedford industrial school during the school year nineteen hundred and nine to nineteen hundred and ten, due the following towns, to wit:—

To the town of Fairhaven, the sum of sixty-seven dollars and fifty cents.

To the town of Rochester, the sum of sixty-seven dollars and fifty cents.

To the town of Marion, the sum of seventeen dollars and fifty cents.

For one-half the tuition of pupils attending the Smith agricultural school during the school year nineteen hundred and nine to nineteen hundred and ten, due the following towns, to wit:—

To the town of Adams, the sum of fifty dollars.

To the town of Amherst, the sum of two hundred dollars.

To the town of Ashfield, the sum of fifty dollars.

To the town of Charlemont, the sum of fifty dollars.

To the town of Chester, the sum of fifty dollars.

To the town of Chesterfield, the sum of fifty dollars.

To the town of Deerfield, the sum of seventy dollars.

To the town of Greenfield, the sum of seventeen dollars and fifty cents.

To the town of Hadley, the sum of eighty-five dollars.

To the town of Hatfield, the sum of one hundred sixty-seven dollars and fifty cents.

To the town of Plainfield, the sum of seventeen dollars and fifty cents.

To the town of Southwick, the sum of sixty-seven dollars and fifty cents.

To the town of Westhampton, the sum of three hundred five dollars and seventy-two cents.

To the town of Whately, the sum of fifty dollars.

To the town of Williamsburg, the sum of one hundred two dollars and fifty cents.

For one-half the tuition of pupils attending the Worcester trade school during the school year nineteen hundred and nine to nineteen hundred and ten, due the following towns, to wit:—

To the town of Paxton, the sum of thirty-nine dollars and thirty-eight cents.

To the town of Leicester, the sum of eleven dollars and twenty-five cents.

To the town of Shrewsbury, the sum of eleven dollars and twenty-five cents.

SECTION 2. This act shall take effect upon its passage.

# XIV. — MEDICAL INSPECTION IN THE PUBLIC SCHOOLS OF MASSACHUSETTS.

PREPARED BY GEORGE H. MARTIN.

Recognition of the law of 1906, requiring medical inspection of public school pupils, is indicated by the number of towns and cities that have complied with the first section of the law, which makes the appointment of school physicians compulsory.

All of the 33 cities and 297 of the 321 towns report in the annual school returns for 1909 that school physicians have been appointed. The 24 towns which appear not to have recognized the law to this extent are as follows: —

Blackstone,	Georgetown,	Sandisfield,
Boxborough,	Gosnold,	Shrewsbury,
Burlington,	Hanover,	Tolland,
Chilmark,	Hopkinton,	Truro,
Conway,	Middleborough,	Washington,
Edgartown,	Otis,	West Stockbridge,
Enfield,	Randolph,	West Tisbury.
Gay Head,	Rockland,	Wilmington.

Although some of these are towns of considerable size, the total number of pupils enrolled in all their schools is less than 2 per cent. of the whole number of children enrolled in the State. In other words, 98 per cent. of the school pupils in cities and towns are having nominal medical inspection.

The actual situation, however, is not as favorable as these figures would show. The inspection which these school physicians make cannot be measured on its positive side by the money which they receive, for many of them do far more than they are paid for; but it can be measured negatively. For example, in Barnstable County all but 1 of the towns report the appointment of one or more school physicians. The total cost of medical inspection in the county, with an enrollment of 4,940 pupils, was \$464.55. Of this amount, Falmouth, with 633 pupils enrolled, spent \$250, and Bourne, with 343 pupils, spent

\$100. The other 12 towns, with an enrollment of 3,307 pupils, spent \$114.55. Two of these towns spent nothing.

These figures show that outside of Falmouth and Bourne there is no medical inspection in the county worthy of the name. Provincetown, the largest town in the county, with nearly one fourth of all the pupils, spent but \$10.

The condition is not much better in some other parts of the State. In Berkshire County, of 30 towns 25 claim to have appointed school physicians. The total cost of medical inspection in these towns, with an enrollment of 9,188 pupils, was \$1,375. Of this, Adams, Dalton and Lenox, with 3,221 pupils, spent \$850, leaving for the other towns, with 5,967 pupils, only an expenditure of \$525. The 2 cities, North Adams and Pittsfield, are not included in this survey.

In Worcester County, 20 towns, all having school physicians and having 6,494 enrolled pupils, expended \$211.30. Several spent nothing.

It would seem that the opinion of many school committees was voiced by the chairman of one committee, who wrote in his annual report: "Medical inspection is practically a nominal affair, it being a yard of State tape for which we are paying the sum of \$50." Fifty dollars seems an extravagant sum to pay for "nominal" inspection.

#### COST OF MEDICAL INSPECTION.

From the returns received at the office of the Board of Education and the published reports of city boards of health, it appears that during the year 1909 there was spent for the medical inspection of school children the sum of \$101,745.59. This is an average of about 20 cents per child. But as in some cities, where the inspection is in the hands of the board of health, the parochial schools are inspected as well as the public schools, and in Boston, which has about one fifth of all the enrolled children in the State, the cost of inspection is much above 20 cents, the actual average cost outside of Boston is much below 20 cents. How irregular the cost actually is may be seen by the following table, which shows in parallel columns the number of enrolled children in towns paying, respectively, \$50, \$100, \$150, \$200

and \$300; thus, in the first town in the first column the cost per child is 53.2 cents, while in the last town in the same column the cost is only 4.3 cents: —

\$50.	\$100.	\$150.	\$200.	\$300.
94	217	324	115	311
143	256	382	190	871
153	343	687	706	1,094
187	387	762	882	1,776
199	460	883	888	2,093
199	463	894	995	2,204
214	476	1,699	1,276	
223	581	1,706	1,562	
270	689	3,266	1,572	
322	710		1,627	
334	818		1,665	
337	828		1,866	
342	862		2,549	
351	882		2,733	
352	947		4,711	
367	1,228			
383	1,411			
385				
386				
407				
465				
466				
510				
647				
1,142				

It would be difficult to fix any scale of payment for school physicians which would not need to be modified by local conditions, needs and means. The preceding table shows that a few wealthy towns are compensating the school physicians upon a scale which most large towns and cities cannot afford. On the other hand, some cities — where school inspection is in the hands of the board of health — are paying little for inspection and that only for the detection of the presence of contagious diseases. The main work of inspection is not done at all.

Inspection must cost more for the same number of children if they are in scattered schools, or if they come from homes where little attention is paid to hygienic living.

Were some such basis of compensation as the following adopted or approximated, probably better results would follow in the smaller and the medium sized towns:—

Towns having less than 200 enrolled pupils,	. . .	\$50
Towns having between 200 and 500 enrolled pupils,	. . .	100
Towns having between 500 and 1,000 enrolled pupils,	. . .	200
Towns having between 1,000 and 1,500 enrolled pupils,	. . .	300
Towns having between 1,500 and 2,000 enrolled pupils,	. . .	400

Prudential reasons not infrequently lead the school committees to appoint several physicians, where one could do all the work and probably do it better and at less expense. This is a matter for the committees to consider.

#### PROPER SCOPE FOR MEDICAL INSPECTION.

What school authorities should do is stated by the statutes with sufficient clearness. Their work is declared to be two-fold:—

First, to provide for a general examination of all the children in the public schools at least once a year for any defect or disability tending to interfere with their school work.

Second, a special examination of children (*a*) who show signs of being in ill health or of suffering from infectious or contagious disease; (*b*) who are returning to school after absence on account of illness or from unknown cause.

The function most generally performed by the school physician is the special examination of children referred to him who show signs of ill health or of suffering from infectious diseases. In many towns and in some cities it is the only work done under the law. This accounts in part for the small amount of money expended. Some school committees who have not appointed school physicians use the town physician, or some member of the school board who happens to be a physician, to do this sort of work. In other words, medical inspection in these places is regarded as casual or emergency work rather than a regular part of the school administration.

In a considerable number of towns no general medical examination of all the children has ever been made. Undoubtedly this general examination is far more important to the school and to the community than the special and casual ones. It reveals defects which have become chronic and which permanently and vitally affect the welfare of the children. The responsibility for this examination rests directly upon the school committee, and not upon the school physician, unless it is specifically included in his contract. In fact, it need not be done by the school physician at all if the committee see fit to make other provision. It may be made by a school or district nurse, and is so made in several towns and cities. Probably it could be made at less expense and as well or better in this way in most cities and large towns.

There is another function of the school physician the exercise of which seems to be largely optional. The law says he shall make "such further examination of teachers, janitors and school buildings as in his opinion the protection of the health of the pupils may require." It is evident from the reports that many physicians are sufficiently interested in their work to make careful examination of school premises, and courageous enough to tell the truth about them.

The following statement regarding medical inspection in Somerville presents an ideal condition as to the general character of the work and the relations of the parties who are jointly responsible for it:—

The medical inspection of the schools of Somerville, which was instituted in December, 1907, has been continued during the year. The value of the system has been constantly demonstrated, and the work has been done in a very satisfactory manner. There has been harmony of action between the board of health and the school board, and the school principals and teachers have very generally co-operated with the inspectors in making the system as successful as possible.

The inspectors make daily visits to the schools under their charge, and to them are referred all children who show evidences of disease or abnormal conditions. Children who are found to be unfit to remain in school are sent home, accompanied by a slip properly filled out advising that the family physician be consulted. The inspectors also make an annual inspection of all the children in the schools, and any defects dis-



covered are called to the attention of the parents. Monthly inspections of the school buildings and premises are made, and suggestions or criticisms are referred to the proper authorities. Every effort is made to protect the health of the children and to co-operate with the parents in keeping the children in as normal a condition as possible.

### REPORTS OF INSPECTION.

The State law now makes no provision for reports by the school physicians, but in most cases the school committees include the obligation to make monthly or annual reports in their contracts with the physicians, and these reports are usually printed with the annual school report. Reports have been received from 150 cities and towns, and superintendents in 30 other towns have embodied in their own reports the results of inspection; so that a fairly good idea may be gained of the physical condition of the school children of the State, the reports covering 80 per cent. of the entire State enrollment.

These reports, as might be expected, vary greatly in their contents and in their value. In the few cases where the physician receives but little pay and does but little work, his report is very general, usually confined to a statement that the children of the town are in good health and that there have been no epidemics of infectious disease.

Other reports are chiefly statistical, giving the number of children suffering from various specified defects. A few intelligently discuss some specific phases of the work, as the care of the teeth, personal hygiene or the condition of school premises. Many of them refer to the general improvement in health.

### CONTAGIOUS DISEASES.

One fact upon which all authorities seem to be agreed is that school inspection has tended to reduce the number of cases of infectious and contagious diseases. One report says: "Much contagion has been prevented by the care of individual pupils by the school physician." Another says, regarding measles and scarlet fever: "A prompt discovery by the teachers and a daily weeding out prevented a serious contagion. The teachers are showing surprising ability in detecting these diseases." Another city report says: "Owing to the vigilance of the school in-

spectors, 11 cases of measles, unreported and exposing many people, were brought to the attention of the board of health in one week."

All investigations seem to show that careful watching and exclusion are more effective in preventing diseases from becoming epidemic than is school closure, and the saving of time of pupils and teachers by keeping the school open is of importance from both the educational and the financial side. The knowledge that a physician is in daily attendance at the school during the prevalence of a contagious disease tends to allay the fears of parents, to prevent a "scare" and to keep the children in school.

#### UNIVERSAL DEFECTS.

In all schools in this Commonwealth, in fact in all schools everywhere, the following defects are likely to be found, and most of them are reported by all school physicians as affecting a larger or smaller number of pupils: defective eyes and hearing; such skin diseases as scabies (itch), impetigo and ringworm, and such parasites as head and body lice; adenoids, enlarged tonsils and cervical glands; decayed teeth; anæmia; chorea; spinal curvature; valvular affections of the heart. A smaller number of children are found suffering from tubercular troubles, and there is occasionally a syphilitic child. There is no school system so small and no community so well safe-guarded by natural conditions and general intelligence that some of these defects are not found. This is not theory or a random guess, but a fact demonstrated by the reports of school physicians. It is this fact which makes neglect of school inspection so serious.

In one purely rural township, enrolling in all its schools only 350 different pupils, the school physician found defects as follows:—

Head lice, . . . . .	39	Enlarged cervical glands, . . . . .	19
Itch, . . . . .	5	Anæmia, . . . . .	6
Impetigo, . . . . .	8	Curvature, . . . . .	9
Unclean, . . . . .	6	Heart trouble, . . . . .	5
Enlarged tonsils, . . . . .	94	Malnutrition, . . . . .	7
Adenoids, . . . . .	49		

In a small manufacturing village, where the school physician examined 202 pupils, he reports 40 per cent. unvaccinated, 60

per cent. with defective teeth, 37 per cent. with adenoids, 32 per cent. with enlarged tonsils, and 10 per cent. with ozæna, which is a peculiarly foul smelling disease of the nose.

In one little town with 59 children to be examined, the physician found 10 suffering from defective teeth, 7 from lice, 9 from enlarged tonsils, 8 from adenoids, 1 from chorea, and 1 from curvature of the spine.

The parents of well children and of clean children for their own protection ought everywhere to insist upon such thorough and constant medical inspection as the law requires and as public safety demands.

#### SKIN DISEASES AND PARASITES.

It appears from the reports that the more common diseases of the skin and the scalp are being successfully controlled through the steady pressure of the teachers, nurses and physicians. Parents are becoming impressed with the necessity of keeping their children clean, and are gradually learning how to care for them.

One city reports a "general improvement in health and cleanliness," "parents have given prompt attention to the matter." In one town the physician reports all cases of impetigo and scabies cured. In another city the report is that scabies has been eliminated and impetigo reduced. Another town reports with satisfaction four rooms free from head lice. Thirty-seven cases of this trouble were found in September; in the following March only 7. Still another reports 8.2 per cent. of the children infected, against 15 per cent. the year before. Another: "That ever present horror of watchful and painstaking mothers — head vermin — appeared in a few cases and was speedily eliminated. This pest will soon disappear as a result of inspection."

Where statistical reports are given, the number of cases of pediculosis reported is much smaller than in former years. Nevertheless, in most cities the number of cases is still altogether too large.

These troubles are of such a nature that only vigorous action on the part of the school authorities is needed practically to eradicate them.

When the combined efforts of the teachers and school physi-

cians have failed to bring improvement, when the parents persist in sending the child to school unclean, school committees are bringing legal pressure to bear, with satisfactory results.

The following letter shows how the matter is handled in Brockton:—

BROCKTON, March 2, 1910.

HON. GEO. H. MARTIN, *State Board of Education, Boston, Mass.*

MY DEAR MR. MARTIN:—When our first examination of pupils is made in September, if any child is found infested with vermin a notice is sent to the parents telling them of that fact, and they are given an opportunity to correct the difficulty if they so desire. A few weeks later, when a second inspection is made, if the child is not perfectly clean he is excluded for a definite period. At the end of this period he is again examined, and a notice is sent to the parents telling them that unless the child is returned to school in a cleanly condition at the end of a certain number of days the case will be placed in the hands of the truant officer, with instructions to prosecute. This usually is sufficient. If it does not accomplish what we desire, the truant officer then brings the case into court. The judge usually reprimands the parent, and gives him about a week to get the child into school. At the end of this week the truant officer reports to the court, and if the child has not been cleaned up in a manner satisfactory to the inspector, the judge will either impose a fine, or continue the case another week, according to circumstances. Sometimes he has imposed a fine, while at other times he has allowed three or four continuances.

Since September I presume we have prosecuted 40 or 50 cases, and we have followed them up until every case has been cleaned up in a satisfactory manner.

Very truly yours,

D. C. BLISS,  
*Superintendent.*

The provision of law under which these measures are taken is found in section 1, chapter 44 of the Revised Laws (as amended by chapter 383, Acts of 1906),—the school attendance law. The specific clause applicable to these cases is the following:—

*Provided, however, that no physical or mental condition which is capable of correction . . . shall avail as a defence under the provisions of this section unless it shall be made to appear that the defendant has employed all reasonable measures for the correction of the condition.*

## DISEASES OF THE THROAT AND NOSE.

The number of school children having enlarged tonsils or adenoids, or both, is very large everywhere.

The following is a record of 1,815 pupils examined in Milford in 1908:—

Six hundred pupils, or more than one third of the whole, showed enlarged or otherwise abnormal tonsils,—an astonishing proportion, indeed. The proportion was much larger in the lower grades than in the higher, showing that one of two things happens: either the children, to some extent, outgrow this defect, or else the defectives fall out and do not reach the higher grades, being mentally as well as physically defective. In all probability both these causes are operative. In a large proportion of these cases—and the proportion was larger in the lower grades than in the higher, for the first of the reasons given—no notification was sent to the parents, but they were simply recorded upon the cards, where their progress could be watched from year to year. In the more pronounced cases, however, and those where the injurious effects were plainly seen in the children, such notices were sent, and the parents were advised to consult a physician.

Probable adenoid growths were diagnosed in 223 cases, but there can be no doubt that more than that number of cases existed. It is not usually safe to make a positive diagnosis of this defect, except after an examination of a nature that is not practicable in school inspection work.

Cervical adenitis, or enlarged glands of the neck, was found in 189 cases, not counting many of those in which it existed in connection with enlarged tonsils and adenoids, to both of which it is often secondary.

The following is an extract from the Brookline school report for 1909:—

The examinations in the department of ear, nose and throat have now been completed in all the grammar and primary schools. The schools examined the past year were the Lawrence, Runkle and Cabot. In the Lawrence, 63, or 31 per cent. of the 204 pupils examined, were found to need more or less treatment; in the Runkle, 63, or 25 per cent. of the 252 examined, were in need of treatment; and in the Cabot, 52, or 58 per cent. of the 89 examined, were referred for observation or treatment. Our recommendations to parents of children needing further attention have been well received. The opposition formerly met with has given place to acquiescence, as parents have

known the care and attention given each child and have seen the results. The interest of the teachers in this work has been most gratifying. Many cases, showing close relation between dull scholarship in children and abnormalities of their noses and throats, have been found by the teachers.

The following table represents the condition in a few towns as reported by the school physicians: —

Number of pupils enrolled or examined.	Number of pupils having adenoids.	Number of pupils having en- larged tonsils.	Number of pupils having both adenoids and en- larged tonsils.
591	6	70	10
2,212	—	480	—
352	49	94	27
93	17	20	—
381	24	31	—
510	—	85	—
183	3	22	—
383	53	46	—
1,040	—	201	—
575	—	112	—
465	—	89	—
93	14	26	—
1,459	101	142	—

There would be no exaggeration in applying to these figures the following statement, which follows similar figures in a report of the Medical Officer of the Education Committee of the London County Council: —

The figures themselves give little of the impression conveyed by reading the individual notes of the mass of educational inefficiency which they represent. Inattention, dullness, backwardness, spurious mental defect, varying deafness, coughs, bronchial irritation, recurring colds, — these are the regular accompaniments of most of the cases of obstructed nasal breathing.

No complete record exists of the number of children treated for these diseases, but casual references indicate that the number is large. One physician reports 10 treatments of adenoids;

another reports 52 in three years. Many refer in a general way to the improvement in hearing and in school work as a result of the removal of adenoids. Almost all of the physicians, however, express regret that the number of throats treated is so small.

### THE TEETH.

Among the discoveries early made by school physicians in the performance of their duties was the fact that most of the children in the public schools had defective teeth, and that little was being done for them either in care or treatment.

The physical examinations also showed that defective teeth were responsible for a considerable share of the other defects disclosed, that they were often associated with diseased throats and with troubles in the digestive tract, and that they rendered the children an easy prey to the attacks of contagious diseases.

Dental hygiene has come, therefore, to assume commanding importance everywhere. School dental clinics have been established in many cities of Germany, following in general the methods adopted in Strassburg, where the first clinic of the kind was opened in 1902.

So important is the subject considered that the Education Committee of the London County Council has published a report on school dentistry in Germany, made by officers sent especially to study the subject. This report shows that school dental clinics are maintained in 47 towns and cities in Germany; that about half of these are town clinics, the others being in connection with universities or conducted by private dentists. They are designed for elementary school children, and treatment in nearly all of them is free.

In Strassburg "the school dentists are State officials, engaged for full time and not allowed to engage in private practice. The clinic is open from 8.30 A.M. to 12 M. and from 2.30 to 5.30 P.M. daily. Treatment is quite free, and tooth brushes are presented to the little patients." The treatment includes extractions and fillings.

Dr. Blair, who writes this London report, says: "As regards the necessity of erecting school clinics, there is no difference of opinion; the only question everywhere is the cost."

Probably the above statement would be too strong to make for Massachusetts, but dental inspection is being steadily extended, and dental clinics for school children have already been established in a number of localities.

In Lynn a dental dispensary was carried on in 1910 in connection with a Neighborhood House. Fifteen Lynn dentists and ten out-of-town dentists gave their services. A nominal charge was made of 15 cents for cleaning, 10 cents for extraction and 25 cents for fillings. One thousand and ten operations were performed upon children. The secretary of the association visited many homes, and gave class-room talks in the schools in the interest of dental hygiene.

In Easthampton, according to the report of the superintendent of schools: —

An arrangement was made with the dentists to care for the teeth of all school children having a notice from the school physician, either making a discount, or in some cases making no charge for the service rendered. This enables all to avail themselves of an opportunity to have their teeth properly cared for.

In Winchester the superintendent reports: —

The dentists in town, nine in number, each give one half day a week to work with needy cases, at a nominal charge of 25 cents per case. (The charge is intended to prevent pauperizing pupils.) The general plan of work includes examination of teeth of all pupils below the high school (and, after this year, in the high school), treating, cleaning and filling teeth, and occasional talks to pupils, teachers and parents. The school nurse works in co-operation with the dentists.

In Brookline, where dental examination has been very thorough and the interest of the teachers so great as to have "awakened in the scholars an enthusiasm for clean and healthy mouths," arrangements were made to treat some of the most neglected mouths in the offices of local practitioners. "A small compensation was paid these dentists for their services, the money being raised from individuals."

The superintendent of schools of Waltham writes in his report: —



The establishment of a dental clinic at the hospital, affording opportunity for the treatment of such school children as are found to need it and are unable otherwise to obtain it, brings a distinct reinforcement to the schools.

These reports indicate that beginnings have been made in what must ultimately be recognized as a legitimate function of each municipality.

#### ANÆMIA.

Nearly all the school physicians report a number of children who are anæmic or suffering from malnutrition or from indigestion. In the large towns and cities, and especially in the poorer sections, the number of such children in a single school may be considerable. An experiment conducted in the Prescott school, Charlestown, Mass., in the spring and fall of 1909 and 1910, shows conclusively how such children may be specially cared for physically without interfering with their regular school work. Such work is possible almost anywhere, as it involves little or no extra expense and only needs a sympathetic and wise principal given freedom to carry out his plans, as was the case in Boston.

#### AN OPEN-AIR CLASS.

The principal of the Prescott school, Mr. W. Lawrence Murphy, gives the following account of the origin of his open-air class and of its success:—

The establishment of an out-door class in the Prescott school, Charlestown, during the spring and autumn of 1909, was brought about by conditions of overcrowding and lack of ventilation.

During the winter months many children seemed to suffer with various forms of illness and to be regularly absent. It was very noticeable that a large proportion of the absence occurred in rooms having sixty or more pupils each, with ventilation wholly inadequate to the number of pupils in the rooms. Children with inherent tubercular tendency or with glandular or nasal troubles were conspicuously absent.

As soon as the weather permitted in the spring, about April 1, some 20 of these chronic absentees were selected by the master, the school nurse and the school physician from the most crowded rooms in the building and were placed in a sheltered part of the school yard, with portable desks and seats, in charge of a special assistant. According to

the doctor's statement, these children were suffering from various forms of anæmia, debility, malnutrition, etc., and for many months had derived little or no benefit from their schooling because of sickness and absence.

It soon became very evident that in some cases a certain amount of nourishment was needed to supplement the effects of the invigorating fresh air; so, by courtesy of a malted milk concern, a cup of hot malted milk was furnished in the middle of each session.

The result of this experiment was at once apparent, and we were gratified to note a phenomenal improvement in the health of these children. They were weighed three times during the spring term, and during those months showed an average gain of about 4 pounds, some gaining as much as 10 pounds during that time. A great improvement was also shown in their appearance and general health, and the attendance of this class became practically perfect from the time they went into the open air until the close of the spring term. Furthermore, the regular teachers of these pupils remarked upon the appearance of unsuspected alertness and ability as their physical condition improved.

This experiment is so simple and inexpensive that it can be carried on in almost all city schools, but is especially valuable in crowded and congested sections.

It is believed that the extension of this idea will become an important factor in the prevention of lung and throat diseases by keeping the general health and vitality of school children at such a high standard as to successfully resist the development of the disease germs. Much of the vast amount of money now spent — and often ineffectually — in the cure of tuberculosis may be saved, and many lives be spared by this simple and inexpensive treatment, and thus the terrible death toll in the tenement districts be lessened.

“An ounce of prevention is worth a pound of cure.”

The following table, prepared at the close of the spring term of 1910, shows better than words can do the nature and needs of the class, and tells something of the result: —

*Prescott School, Charlestown. — Report of out-door class. Work of spring term, 1910.*

NUMBER.	Grade.	Doctor's diagnosis.	Weight March 15 (pounds).	Weight June 18 (pounds).
1,	IV.,	Glandular trouble, . . . . .	73¾	75
2,	IV.,	Cervical adenitis, anæmia, . . . . .	56	66
3,	IV.,	Malnutrition from indigestion, . . . . .	43¾	48
4,	IV.,	Indigestion, anæmia, . . . . .	51	53
5,	IV.,	Anæmia, . . . . .	52	53
6,	IV.,	Glandular trouble, . . . . .	53	53
7,	IV.,	Anæmia, debility, . . . . .	48	51
8,	IV.,	Tubercular tendency, . . . . .	59	62
9,	IV.,	Debility, anæmia, . . . . .	47	46
10,	IV.,	Debility, . . . . .	50	51
11,	IV.,	Chorea, . . . . .	48	49
12,	V.,	Anæmia, . . . . .	59	59½
13,	V.,	Indigestion, . . . . .	68½	70½
14,	V.,	Tubercular tendency, . . . . .	73	75
15,	V.,	Tubercular tendency, . . . . .	73	75
16,	V.,	Bronchitis, . . . . .	51	52
17,	V.,	Anæmia, . . . . .	52	55
18, <sup>1</sup>	V.,	Heart rheumatism, . . . . .	61	62
19,	VI.,	Low vitality, . . . . .	63	66
20,	VI.,	Anæmia, . . . . .	54¾	56½
21,	VI.,	Heart rheumatism, . . . . .	69	72
22,	VI.,	Malnutrition, . . . . .	60	60
23,	VI.,	Debility from tonsillitis, . . . . .	59	61
24,	VI.,	Debility following measles, . . . . .	51	53
25, <sup>1</sup>	VI.,	Anæmia, . . . . .	68	70
26,	VI.,	Anæmia, . . . . .	60½	63
27,	VI.,	Enlarged tonsils, . . . . .	69	72
28, <sup>1</sup>	VI.,	Chorea, . . . . .	74	77½
29,	VI.,	Tubercular history, . . . . .	89	93
30, <sup>1</sup>	VI.,	Adenoids, chorea, . . . . .	80	82½
31,	VI.,	Debility, . . . . .	59	60
32, <sup>1</sup>	VI.,	Indigestion, debility, . . . . .	56	69

<sup>1</sup> A boy.

The average gain in weight was very nearly 3 pounds. Probably the gain was much greater than the above table would seem to show, as the children were dressed in much heavier clothing at the time of the first weighing.

The gain in scholarship and attendance was even more marked than the gain in weight, the attendance being practically perfect while the children were out of doors, from March 15 to June 18.

#### VACCINATION.

The following statute, without the exception, has been a school law since 1855. The exception dates from 1898:—

A child who has not been vaccinated shall not be admitted to a public school except upon presentation of a certificate granted for cause stated therein, signed by a regular practising physician that he is not a fit subject for vaccination.

Nothing could be plainer or more mandatory, yet outside the cities the enforcement by school authorities has been singularly lax.

One of the salutary effects of medical inspection is the new life which it has put into this old law. Many school physicians report in general terms, "Many unvaccinated." How general has been the neglect is shown by the following specific statement:—

TOWN.	Number examined.	Number unvaccinated.
A, . . . . .	295	75
B, . . . . .	131	71
C, . . . . .	465	113
D, . . . . .	202	80
E, . . . . .	120	74
F, . . . . .	93	44
G, . . . . .	211	140

In all these cases the physicians have insisted upon the observance of the law, and vaccination has become general.

## TESTS OF VISION AND HEARING.

The school returns show that the eye and ear tests have been given as required by law in all the towns and cities, excepting Otis and Mt. Washington. Four annual examinations have been made since the law was passed, and the results as reported are shown in the following table: —

	1907.	1908.	1909.	1910.
Number of pupils examined, . . . . .	432,464	437,435	441,463	454,058
Number defective in vision, . . . . .	96,607	81,158	73,129	71,902
Number defective in hearing, . . . . .	27,387	22,601	20,167	17,329
Per cent. of defectives in vision, . . . . .	22.3	18.5	16.5	15.8
Per cent. of defectives in hearing, . . . . .	6.3	5.1	4.5	3.8

It will be seen that the per cent. of defective pupils has diminished from year to year. No one satisfactory explanation of the apparent reduction has been found. Probably several causes have combined to produce these results. It is certain that in many towns slight deviations from the normal both in vision and hearing have not been recorded in recent years. One superintendent distinctly states that only those pupils have been recorded as defective whose school work was seriously interfered with. Such a standard, of course, is purely subjective, and lacks all the elements of a scientific examination.

It is probable that the later tests have been made under more careful oversight by principals, superintendents, physicians and nurses than were the earlier ones.

In view of the known variation in practice both in recording and in reporting, and in the hope that the fifth test may be made and reported more uniformly, the following new directions have been prepared by the State Board of Health and promulgated by the Board of Education: —

*Directions.*

1. The tests will be made as early in the school year as possible, preferably in September.
2. The tests will be made under the most favorable conditions, and

as nearly as possible under the same conditions, preferably in well-lighted rooms, in the early part of the day.

3. The testing will be done by the teacher of the class, and will be supervised by the principal to see that the conditions of the test are as uniform as possible for the different classes.

4. Children wearing glasses will be tested *with the glasses*, and if found normal will be so recorded.

5. Examine all children, but record as defective only those whose vision is  $\frac{2}{40}$  or less, in either eye.

6. Report to the State Board of Education the whole number of children examined and the number found defective according to the standard given in No. 5.

#### RESULTS OF VISION TESTS, BY GRADES.

In 1865 Dr. Herman Cohn began an examination of the eyes of school children in Breslau. After having examined 10,000 children, he formulated certain general conclusions, among which was the following: "The number of short-sighted scholars rises regularly from the lowest to the highest classes in all its institutions."

In a circular of information of the United States Bureau of Education, No. 6, 1881, after speaking of investigations in this and other countries, the writer makes this statement:—

All, without a single exception, prove beyond a doubt that near-sightedness, beginning perhaps at nothing in the lower classes in the school and first year of school life, steadily increases from class to class in the school, until in the highest grades or in the last year of school attendance it has actually developed itself in as many as 60 or 70 per cent. of all the pupils.

It has seemed desirable to ascertain how far the recent tests in this State sustain the conclusions reached in 1881, because those conclusions are frequently quoted as if they represented conditions still general.

Inquiries have been made of several principals in different parts of the State and of a number of principals in Boston. The schools differ in the character of the pupils, in the location and condition of the schoolhouses, and undoubtedly in the accuracy of the tests made. The answers to these inquiries are given in

the following tables, the first representing schools in Boston. They include only the five upper grammar grades. The letters mark individual schools: —

*Per Cent. of Pupils Defective in Vision, by Grades.*

TABLE I. — *Schools in Boston.*

GRADES.	A.	B.	C.	D.	E.	F.	G.	H.	I.	J.	K.
IV., . . . .	23	28.4	50	25	20	33	10	12.0	31	15	31
V., . . . .	29	31.7	22	33	20	30	10	10.5	27	17	24
VI., . . . .	26	28.5	35	33	10	36	12	12.0	27	17	33
VII., . . . .	26	16.3	40	25	10	43	14	8.0	18	13	24
VIII., . . . .	23	17.5	25	28	18	26	15	8.0	36	12	24

Of these schools, A, B and C are composed wholly of girls, and D, E and F wholly of boys. The other schools have both girls and boys. The pupils in C and D come from the same families, and, therefore, represent the same home conditions. H is a large school in a new building on the summit of a hill, with an abundance of light. In all these schools the tests of the so-called *ungraded classes*, composed of recent immigrants or backward children, show considerably higher per cents. of defectives.

TABLE II. — *Schools in other cities.*

GRADES.	A.	B.	C.	D.	E.	F.	G.	H.	I.	J.	K.
IV., . . . .	10.2	28.3	26.4	—	—	2.8	18	17.9	4.7	45	17.6
V., . . . .	9.8	18.8	23.8	22.9	24.4	19.0	13	23.2	9.0	38	17.5
VI., . . . .	12.7	18.8	22.0	24.2	21.4	13.0	12	12.5	22.0	45	—
VII., . . . .	13.4	15.2	23.9	20.7	25.7	3.8	10	15.6	16.2	38	6.0
VIII., . . . .	6.2	9.1	22.8	15.3	13.3	18.0	9	9.8	11.1	24	—
IX., . . . .	9.5	—	19.0	16.2	16.7	13.0	8	—	—	39	14.3

School A is in Lowell, B in Lawrence, C, D and E in Lynn, F in Holyoke, G in Brockton, H in New Bedford, I in Westfield, J in Cambridge and K in Brookline.

TABLE III.

TOWNS AND CITIES.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	High school.
Worcester, 1,800 pupils, .	-	-	-	29.0	21.0	20.0	23.0	17.0	22.0	-
Beverly, 2,786 pupils, .	13.5	13.1	20.0	21.8	15.9	16.4	20.8	13.2	-	-
Framingham, . . .	-	22.0	15.4	19.5	26.4	19.2	10.0	14.3	11.7	9.5
Georgetown, . . .	20.0	5.0	12.0	25.0	5.0	12.0	-	2.5	-	-
Ludlow, . . . .	-	10.0	15.7	23.3	28.5	42.3	6.8	18.5	35.7	-

These tables represent so wide a range of conditions as to warrant the conclusion that they may be considered typical, and that little further light would have been afforded by broadening the scope of inquiry.

It is impossible to draw from them any strictly scientific conclusions. Nothing but the broadest generalization would be justified. The figures do not show a general rise in the number of short-sighted pupils through the grades. In a few schools they show just the reverse. The highest per cent. of defectives seems likely to be found in any grade, and in the schools represented, taken together, is found in every grade from the first to the ninth.

Speaking generally, it appears to be true that a larger proportion of defectives is found in the lower grammar grades than elsewhere. On account of the size of the lower classes, it is also probably true that the actual number of defectives is much larger. The lessening number of defectives in the higher grades may be due in part to the early withdrawal from school of short-sighted pupils. Only a special inquiry could determine this.

It appears also to be true that the large city schools, composed of children from tenement blocks and in schoolhouses surrounded by other buildings, have the larger proportion of short-sighted pupils. More careful investigation might show that the condition of the homes is more important as a determining factor than the school conditions.

The report is made that the children of recent immigrants show a larger proportion of defectives. How far, if at all, this



excess is only apparent, being due to unfamiliarity with the letters used on the Snellen cards, is another undetermined point.

One purpose in printing these figures is to show how far from being scientific are the tests now made, and how unsafe are any generalizations from them beyond the simple conclusion that children are defective. If this representation should induce some principals or superintendents to make careful tests and a careful study of the results, much good might be done. Such tests might not benefit the unfortunate children any more, but if they should indicate clearly dangerous conditions, and point the way to needed preventive measures, they would more than justify the labor involved.

### *Results of the Inspection.*

No figures are available to show to what extent children found defective in vision and hearing have received remedial treatment. Numerous general statements, however, give the impression that the number treated is large, though by no means approaching the whole number found defective.

In the few cases, where a card record of these tests has been kept, it is possible to measure with some degree of accuracy the change in condition. Superintendent Davison of Turners Falls writes: —

Our records indicate that, when the parents have responded to the notice sent home in respect to need of treatment of either the eye or ear, there has been a decided improvement.

Where no attention has been paid by the parent to the notice the records show that the defect increases from year to year. Two cases reported by Mr. Davison are as follows: —

A boy in the fifth grade in 1907 showed 20/20 for the right eye and 20/30 for the left. For 1908 the record was 15/50 for each eye, and in 1909 12/50 for each eye.

Another test in 1907 showed 20/50 and 20/40 for the eyes. In 1909 the result was 7/50 for each eye.

The following table, prepared from the records of one boys' school in Boston, shows the changes in visual power of 35 of the most defective pupils, for whom the parents made no provision.

The tests were made in the spring of 1909 and 1910. The first two columns show the record made in 1909. It will be seen that in some cases there was no change; in others there was improvement, sometimes in one eye, sometimes in both. In several cases the conditions in the two eyes reverse themselves, the better eye becoming the poorer one. In a large number of cases, however, the children become shorter-sighted during the year.

*Vision Record of 35 Children.*

NUMBER.	1909.		1910.	
	Right eye.	Left eye.	Right eye.	Left eye.
1, . . . . .	20/30	20/40	20/50	20/50
2, . . . . .	20/50	20/50	20/50	20/40
3, . . . . .	20/40	20/40	20/40	20/40
4, . . . . .	20/40	20/40	20/50	20/50
5, . . . . .	20/40	20/30	20/50	20/50
6, . . . . .	20/50	20/20	20/20	20/50
7, . . . . .	20/40	20/40	20/40	20/40
8, . . . . .	20/50	20/50	20/50	20/50
9, . . . . .	20/50	20/50	20/50	20/50
10, . . . . .	20/50	20/50	20/40	20/50
11, . . . . .	20/20	20/40	20/40	20/40
12, . . . . .	20/40	20/30	20/40	20/40
13, . . . . .	20/40	20/40	20/50	20/50
14, . . . . .	20/40	20/40	20/40	20/40
15, . . . . .	20/20	7/50	Very bad.	Very bad.
16, . . . . .	20/50	20/50	3/50	15/50
17, . . . . .	20/50	20/50	20/20	20/40
18, . . . . .	20/40	20/20	20/40	20/40
19, . . . . .	20/40	20/40	20/40	20/20
20, . . . . .	6/50	6/50	5/50	15/50
21, . . . . .	20/40	20/40	20/40	20/50
22, . . . . .	20/40	20/40	20/40	20/20
23, . . . . .	20/20	20/50	20/50	20/30
24, . . . . .	20/80	20/50	20/50	20/30
25, . . . . .	20/50	20/50	20/20	20/40
26, . . . . .	15/50	15/50	20/50	20/20
27, . . . . .	20/50	20/20	20/40	20/50
28, . . . . .	15/50	20/50	20/20	15/50

*Vision Record of 35 Children — Concluded.*

NUMBER.	1909.		1910.	
	Right eye.	Left eye.	Right eye.	Left eye.
29, . . . . .	20/50	20/50	20/40	20/40
30, . . . . .	20/50	20/50	20/40	20/50
31, . . . . .	20/40	20/20	20/20	20/40
32, . . . . .	10/50	20/20	20/20	5/50
33, . . . . .	10/50	20/20	20/20	20/40
34, . . . . .	20/40	20/40	20/50	15/50
35, . . . . .	6/50	6/50	5/50	3/50

In many towns and cities data should now be available for answering these questions:—

1. What changes have occurred in the vision of individual pupils, as indicated by the Snellen tests, since the records were first made?

2. Are these changes greater or less in the higher grades?

3. How do the sexes compare in the number of defectives?

4. To what extent is defective vision accompanied by other physical defects?

5. To what extent are defects of vision characteristic of any class of pupils, based on race or home conditions?

6. To what extent is vision affected by such school conditions as location of buildings and rooms, crowding, ventilation?

A careful study of records obtained should enable principals and superintendents to make some distinct contributions to the general knowledge of school hygiene.

#### WATER SUPPLY.

No sanitary improvement has become more general than the installation of bubble fountains in schools supplied with running water, and the substitution of covered receptacles for the open water pail and individual for common drinking cups in rural schools.

The regulation of the State Board of Health, forbidding the use of the common drinking cup in schools as well as in other

public places, which went into effect Oct. 1, 1910, will make it necessary for all school authorities to provide individual cups or install fountains. Having done this, school influence through instruction in hygiene will be needed to prevent the exchange of cups and to see that they are kept clean.

These changes should go a long way in preventing the spread of infectious diseases through the schools.

### SCHOOL BUILDINGS.

There is no doubt that much of the ill health of the pupils in the schools is due to the faulty construction or defective condition of the school buildings, and to the lack of proper sanitary provisions or sanitary precautions. Bad heating, bad lighting, bad ventilating, bad cleaning are common. Although large sums of money have been annually spent for many years in providing better school accommodations, this expenditure has never kept up with the need, and the newer conceptions of adequate sanitation have received no recognition in many localities.

The following are extracts from an inaugural address of the mayor of a city, describing a schoolhouse still in use: —

“The present schoolhouse is unsanitary, with no provision whatever for ventilation, and some rooms are very poorly lighted.”

“The only sanitary accommodations for 400 pupils is a wooden out-house, small, poorly ventilated, with one narrow door, used both for entrance and exit.”

“The halls are not heated.” “There is no basement to the building, except a partial excavation for the storing of coal under the oldest part.” “The effect of the dampness rising from the moist ground underneath the building is felt and seen throughout the structure, and constantly invites sickness and disease.”

“Standing within a few feet of a paved street, the work of pupils and teachers is seriously interrupted by noises of heavy teams and the frequent passing of trolley cars.”

“The rooms, with two exceptions, are too small to seat a whole class of pupils.”

“Each room is heated by a furnace, which occupies a large portion of the floor space.” “All children in a room are exposed to the extremes of temperature.”

“The desks are unadjusted. Many are misfits and the children are subjected to physical injury by sitting in cramped and uncomfortable positions.”

The following statements are found in the reports of school physicians: —

“I wish again to call to your notice the condition of the \_\_\_\_\_ building. It is, as you well know, a mere shell, devoid of any modern sanitary equipment. It stands as a monument of what is the very worst a town can do to house its pupils.”

“Moral sanitation can be brought about only by replacing the crude, vulgar and unsanitary apparatus by a modern equipment.”

“I find the outhouses at the schools in a disgustingly filthy condition, and I also find that in some cases boys and girls are obliged to use the same closet. The expense of furnishing decent conveniences would be trivial, and nothing less should be tolerated. I speak thus warmly because these unwholesome conditions have been present for many years and in the face of frequent protests.”

“The outbuildings at the high school have been in a very filthy state, and I should advise a thorough cleaning and means adopted to keep them clean.”

“The ventilation of all the school buildings is very poor, the scholars crowded, and breathing the same air over and over again.”

In the high school above referred to only 5 of 22 have remained to graduate. Can it be wondered at that boys and girls of high school age are not willing to endure the conditions described above?

Under the laws as they now stand, three sets of officers are directed or authorized to inspect schoolhouses, — the inspectors employed by the Massachusetts District Police, the health inspectors appointed by the State Board of Health, and the school physicians appointed by local boards of health or local school committees. But no one is given sufficient authority to prescribe the construction or care of schoolhouses or outhouses, or to prevent the continued use of unsatisfactory structures.

Adequate legislation is needed to remedy these defects. Such legislation should vest in some State authority plenary power to prescribe plans, structure, sanitary arrangements and suitable care of all school buildings, and to inspect and condemn unsuitable structures.

## THE SCHOOL NURSE.

As the nature and needs of medical inspection become more clearly understood, the usefulness of the school nurse becomes more apparent. So far as reported, one or more nurses are now employed in the schools of Amherst, Boston, Brockton, Brookline, Cambridge, Canton, Holyoke, Lancaster, Leominster, Lowell, Northampton, Northborough, Walpole, Waltham and Winchester. In several of these places a district nurse is employed for a part of her time by the school authorities.

Just how the functions of the nurse and the school physician shall be related has not been worked out in all places, but speaking generally it may be said that the preliminary and routine inspections are conducted by the nurse, while the physician is called upon for diagnosis of cases specially referred to him.

The nurse makes the examinations, keeps the records, prescribes for such minor diseases as those of the skin and the scalp, treats minor wounds, bruises and sores, advises the teachers, visits homes to counsel and instruct the parents, accompanies children to the hospital or other clinics, and gives health talks to teachers and pupils. She acts under the general direction of the school physician, and refers to him all cases of a more serious nature. She keeps at the school such appliances as may be needed, — basin, tongue depressors, cleansing preparations, antiseptics, ointments, bandages, etc. By her ministrations she not only saves the children from much pain and discomfort, but she saves much time by the immediate recognition of disease and the prompt application of remedial measures; and, by “following up” the children who are temporarily excluded from school, she secures an earlier return than would otherwise be the case.

In a report of the Amherst Woman’s School Alliance, through whose efforts a nurse has been employed in the schools of that town, occurs the following wise statement regarding this “follow up” work: —

The “follow up” system means that every case seen and diagnosed by the medical inspector is “followed up” by the school nurse, treated by her in the homes under the inspector’s orders or the orders of the family physician, where such treatment is possible, and in any case kept record of until the case is classed as cured or incurable. This is con-

sidered the newer State economy,—newer than appointing medical inspectors.

Without this “follow up” system the claim is that medical inspection cannot fail to be an extravagance, in that the cost of the diagnosis is not repaid to the State by due results. In a word, observation and curative and preventive treatment must follow the diagnosis to justify the expenditure incurred by the first step.

In Winchester the following is a rule of the school committee:—

Teachers and principals will take particular pains to report [to the nurse] cases seeming to fall under any one of the following heads: mouth breathers, suspected adenoids, special defects, deafness, frequent colds, bad breath, chronic discharge from nose or ear, fever, coughs, headache, twitching or squinting of eyes, twitching of face or parts of body, skin diseases, parasites, enlarged glands in the neck, loss of hair, deformities, tuberculosis, uncleanness, frequent absences, bad behavior, inattention, backwardness in studies, malnutrition.

The school committee further say:—

It is hoped that the results of the work of the school nurse may be to give the school physician time for effective consideration of the more serious cases, to improve the general health of all the pupils, to secure medical treatment without delay and to lighten the work of our teachers.

The following letter from the superintendent of schools in Brockton describes a very effective organization for medical inspection in a city system:—

BROCKTON, Feb. 28, 1910.

MY DEAR MR. MARTIN:—The medical inspection in the Brockton schools is done by a school nurse and three regular physicians. The larger part of the work falls to the nurse. At the opening of the school year she makes a superficial examination of all pupils, and notices are sent to parents of any existing trouble. This gives them an opportunity to remedy the difficulty if they so desire. The majority of these notices are for vermin.

When the first examination is completed the nurse works over the same ground again, but now the inspection is more rigid. In case of vermin the doctor is called in to verify the diagnosis of the nurse, and the child is excluded. At the first examination the nurse calls in the doctor if a contagious disease is suspected, and the child is sent home.

The plan is to have all preliminary work done by the nurse and use

the physicians to corroborate her opinion. In this way we can get along with a doctor for every 3,000 pupils. The nurse writes up the results of the examination on the life card of every pupil. She visits homes whenever parents seem to need advice relative to the advisability of some operation, and she assists in the operation if the parents so desire. She is employed by the school board at a salary of \$800, and is of course responsible to them.

We are examining now for all contagious diseases, vermin, adenoids and enlarged tonsils, defective sight and hearing, bad teeth, and any other noticeable defect.

One of the most valuable features of the work of the nurse lies in the following up of cases needing attention. Nearly 700 cases of adenoids were reported for the year ending December 1, and of these, 100 were operated upon. Last week 20 more were treated at the hospital. These are due to her personal work. To my mind the school nurse is by far the best solution of the medical inspection question.

Should you desire any additional information I will be glad to furnish it.

Sincerely yours,

D. C. BLISS,  
*Superintendent.*

#### TUBERCULOSIS.

The Legislature of 1908 added to the list of subjects which must be taught to all pupils, "special instruction as to tuberculosis and its prevention."

A little booklet of suggestions, prepared by specialists in pulmonary diseases, was published by the Board of Education and distributed to all the teachers in the State. Using this as a basis of instruction, the teachers have endeavored to impress upon the minds of their pupils the sanitary precautions needed to prevent the attacks of the dreaded disease. Local physicians have been glad to help in the work by simple schoolroom talks. Societies for the prevention of tuberculosis in various cities and towns have furnished literature.

The Trustees of Hospitals for Consumptives have prepared a tuberculosis exhibit, consisting of pictures and mottoes, which is to be sent to different cities as called for, and installed for a considerable time where the school children of the city may be brought to see it.

The exhibit contains no statistics, and has little to say about consumption as a disease. The main facts for children to learn from the exhibit (so an accompanying circular says) are: —



1. That there is a right and a wrong way of living.

2. That fresh air day and night, cleanliness, exercise and wholesome food are essential not only in the treatment of consumption but are more important still in avoiding consumption, and in maintaining that condition of health which will ward off disease.

3. That consumption is not hereditary, but that it is a disease of dirt, darkness and ignorance.

4. That people working and living under proper conditions need not worry about getting consumption.

5. That prevention is better than cure, and that good physical health is more precious than much knowledge.

The exhibit can be purchased for \$35, or loaned, while the supply lasts, to any city or town.

#### XV. — COUNTY TRAINING SCHOOLS.

There are at present 6 county training schools, for the commitment of habitual truants, absentees and school offenders. These schools are located as follows: —

COUNTY TRAINING SCHOOLS.	Location.	Superintendent.
Essex, . . . . .	Lawrence, . . .	W. Grant Fancher.
Hampden, . . . . .	Springfield, . . .	Erwin G. Ward.
Middlesex, . . . . .	North Chelmsford,	M. A. Warren.
Norfolk, Bristol and Plymouth,	Walpole, . . .	James H. Craig.
Suffolk <sup>1</sup> (Boston Parental), .	West Roxbury, .	D. P. Dame.
Worcester, . . . . .	Oakdale, . . .	Stephen P. Streeter.

<sup>1</sup> Under the law commitments from Chelsea, Revere and Winthrop in Suffolk County must be to the training school for the county of Middlesex.

The counties of Barnstable, Berkshire, Dukes, Franklin, Hampshire and Nantucket are exempted by law from maintaining training schools of their own, but the county commissioners of each of these counties are required to assign an

established training school as a place of commitment for habitual truants, absentees and school offenders. The places designated by the several commissioners are as follows:—

COUNTY.	Location of assigned training school.	COUNTY.	Location of assigned training school.
Barnstable, . .	Walpole.	Franklin, . .	North Chelmsford.
Berkshire, . .	Springfield.	Hampshire, . .	North Chelmsford.
Dukes, . . .	Walpole.	Nantucket, . .	—

*Table showing the number of pupils attending, admitted and discharged during the school year, 1909-10.*

COUNTY TRAINING SCHOOL.	Number at beginning of year.	Number admitted during the year.	Number discharged during the year.	Number at close of the year.
Essex, . . . . .	151	38	36	153
Hampden, . . . . .	27	19	24	22
Middlesex, . . . . .	177	61	55	183
Norfolk, Bristol and Plymouth, .	65	37	45	57
Suffolk (Boston Parental), . .	179	118	125	172
Worcester, . . . . .	58	43	46	55
Totals, . . . . .	657	316	331	642

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## APPENDIX.

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# The Commonwealth of Massachusetts.

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## REPORT ON AGRICULTURAL EDUCATION.

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*To the Honorable the Senate and House of Representatives.*

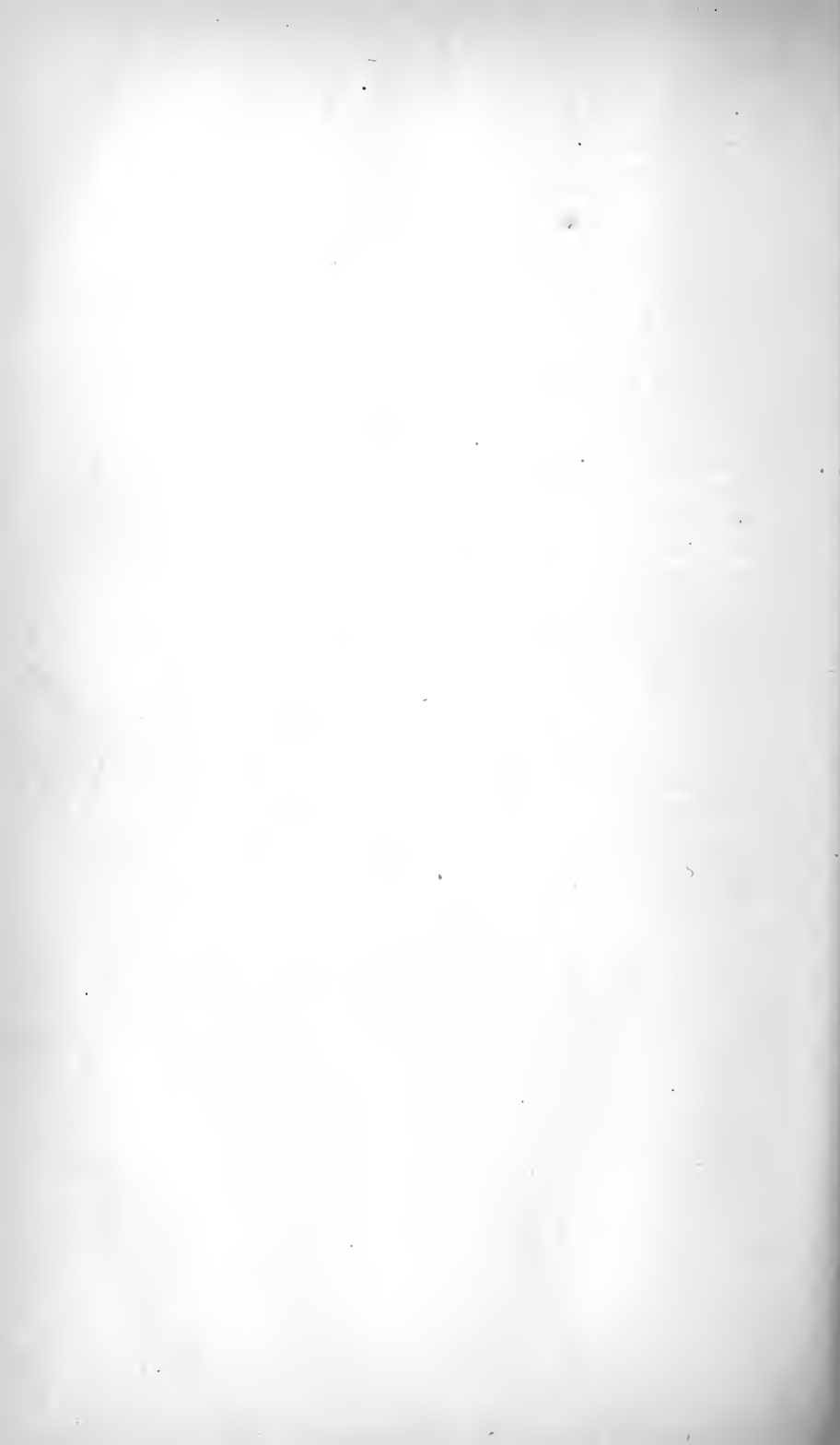
In accordance with the provisions of chapters 108 and 133, Resolves of 1910, concerning the advisability of establishing a system of agricultural schools throughout the Commonwealth, and concerning the practicability and desirability of establishing a farm school in the city of Worcester, the Board of Education herewith reports the results of investigations and recommendations, made under its direction by the Commissioner of Education, David Snedden, Deputy Commissioner Charles A. Prosser and Special Agent Rufus W. Stimson.

The Board adopts the report and endorses the recommendations.

FREDERICK P. FISH, *Chairman*,  
SARAH LOUISE ARNOLD,  
ELLA LYMAN CABOT,  
SIMEON B. CHASE,  
LEVI L. CONANT,  
THOMAS B. FITZPATRICK,  
FREDERICK W. HAMILTON,  
PAUL H. HANUS,  
CLINTON Q. RICHMOND,

*Members of the Board.*

JAN. 1, 1911.



## I.

### PRELIMINARY STATEMENTS, SUMMARY OF THE REPORT AND RECOMMENDATIONS.

Following is the text of the resolves passed by the Legislature: —

#### RESOLVES OF 1910, CHAPTER 108.

*Resolved*, That the state board of education shall investigate the practicability and desirability of establishing a farm school in the city of Worcester in which instruction may be given, free, in the raising of fruits, vegetables, flowers, grains, plants and trees, and in the care of domestic animals, and in which similar instruction suitable to their years may be given to children. The board shall report in print to the general court, with such recommendations as it may deem proper, not later than January fifth, nineteen hundred and eleven. [*Approved May 28, 1910.*]

#### RESOLVES OF 1910, CHAPTER 133.

*Resolved*, That the board of education is hereby authorized and directed to investigate the advisability of establishing a system of agricultural schools throughout the commonwealth, and to report the result of its investigation with its recommendations to the next general court not later than the second Wednesday in January, nineteen hundred and eleven. [*Approved June 10, 1910.*]

In obedience to these resolves, the Board of Education directed the Commissioner of Education to make the necessary investigations and to engage expert assistance. Mr. Rufus W. Stimson, director of Smith's Agricultural School and Northampton School of Industries, was appointed to assist in making the investigations and preparing the report.

Special acknowledgment is here made of the assistance of the following: President Kenyon L. Butterfield and members of the faculty of Massachusetts Agricultural College; Secretary J. Lewis Ellsworth of the State Board of Agriculture; Mr. Dick J. Crosby, specialist, and Mr. F. W. Howe, assistant specialist, in agricultural education, of the United States Department of Agriculture, Office of Experiment Stations; Mr.

Arthur C. Monahan, agricultural specialist of the United States Bureau of Education; the Hon. C. D. Richardson, Past Master, and the Hon. Charles M. Gardner, Master, of the Massachusetts State Grange; and many other citizens of Massachusetts.

A brief survey has been made of the development of agricultural education in Massachusetts and like work elsewhere. The economic status and prospects of farming, as conducted by both men and women, in this State, have been examined.

Selected and typical centers have been studied, as to the facilities for transportation, as to the most promising lines of farming in practice, and as to the probable enrollment in an agricultural school or department. All parts of the State have thus received attention, with the exception of the islands of Dukes and Nantucket. It will be easily understood that this report can deal only in general terms with the results of these local investigations.

Printed sources of information have been used, and conferences have been held both with groups and with individuals. By far the largest number of consultations have been held on their own premises with farmers who are obtaining their living from their agricultural work, and who are regarded by their communities as sound in judgment, methods and ideas.

No serious appraisalment of educational needs and values has been undertaken, beyond the strict limits of agricultural training adapted to youths from fourteen years of age upward. In fact, attention has been almost exclusively confined to agricultural education suitable for boys, and perhaps for some girls, who intend to follow farming for a livelihood, and who, but for the type of training recommended in this report, probably would follow the practice of a long line of their predecessors, and drop out of school altogether.

Provision of agricultural education for girls who have passed their fourteenth birthday has been considered. This problem raises very important questions, both educational and economic. There is little experience, so far, by which to be guided. It is believed, therefore, that this subject should be further investigated, and that the questions involved can best be answered by actual experiments made in connection with the agricultural schools and departments proposed in this report.



## FINDINGS IN BRIEF.

The agricultural and educational conditions in this Commonwealth are believed to warrant the following conclusions: —

1. Farming in Massachusetts is a highly important vocation.
2. Massachusetts farming, where most profitably practiced, is peculiarly dependent upon, and responsive to, scientific knowledge and improved methods. Its increasing diversity and specialization, which are such promising elements in its progress, make more difficult the task of preparation for it, and make more emphatic the duty of the State to the boys and girls who are to follow it.

3. Agencies for carrying scientific knowledge and improved methods to adults, and to students of such age and preliminary training as to enable them to meet the usual college entrance requirements, appear to have been both carefully considered and fairly well established.

4. There is a decided lack of, and a pronounced demand for, agricultural training of a scientific and very practical character, suitable for boys, and perhaps for some girls, fourteen years of age and older, who expect to gain their livelihood from, and to spend their lives on, Massachusetts farms.

5. The growing commercial and industrial school facilities open to boys and girls fourteen years of age and older, tend to lure away from the land and into the congested centers, in the absence of competent and attractive agricultural education, many young people whose natural aptitudes would make them, if properly trained, better and more prosperous citizens in the country.

6. Financial aid for agricultural education, suitable for adults and for college students, has for a half-century been furnished by this Commonwealth and by the federal government. State aid for vocational training of secondary grade in agriculture, is, moreover, entirely in keeping with State aid for independent industrial school work, and to some extent was provided for by chapter 505 of the Acts of 1906 and chapter 572 of the Acts of 1908.

7. The slow development of secondary agricultural schools, the testimony of farmers throughout the State, and the demand

for the investigation here reported which was made by the Legislature of 1910, are evidence of the need of additional legislation providing for this kind of agricultural education.

8. School committees have long been authorized and empowered to provide instruction in agriculture in the public elementary and high schools of the State. While this training has been more liberal and cultural than vocational in its aims and results, it merits the hearty support of local communities in this Commonwealth.

Instruction in gardening and in other matters relating to the farm should be encouraged and guided in all the elementary schools of the State, where the home environment or the school facilities make productive work and personal observation by the pupils practicable.

As an important aid to liberal education in all of the high schools of the State, particularly in those which have a rural environment, guidance and encouragement should be given, with a view to the incorporation of generous proportions of agricultural subject matter in the science instruction, and to the sympathetic correlation of certain parts of the instruction in English, history, civics and hygiene with rural life and labor, institutions and progress.

9. In order that more adequate school facilities may be provided in this Commonwealth for preparing those above fourteen years of age for productive and profitable farming, vocational agricultural departments are proposed in this report for establishment in existing high schools.

The methods and vocational standards of instruction for the development of such agricultural departments have nowhere been tried in the exact form proposed in this report. Such approximations to this kind of training as have been found in this State and elsewhere, and the very general interest in and approval of it found among representative Massachusetts farmers with whom it has been discussed, are believed to warrant giving the department type a thorough trial.

The experimental character of the department type, it will be noticed, has been recognized in the proposed codification of the law. It is designed that the problems which would confront such departments shall be carefully studied, that their work shall be thoroughly done, and that no department shall

be attempted where conditions for success are not reasonably favorable.

While annual State aid to the amount of \$10,000 might make ten departments possible, it is by no means certain that it would be found advisable to establish ten departments, or even five, the first year. On the other hand, if the proposed department type of agricultural training should prove in actual use to embody the merit which it is believed to possess, provision for increasing the number beyond ten could in future be made.

#### RECOMMENDATIONS.

In view, then, of the needs of the State as we have found them, the following three recommendations are respectfully submitted: —

1. We recommend that State aid, equal to that granted any town, or group of towns constituting a district, for industrial schools, be continued as at present provided for in the case of any town, or group of towns constituting a district, for the establishment and maintenance of an independent agricultural school. (See chapter 505, Acts of 1906, and chapter 572, Acts of 1908.)

2. We recommend that provision be made for the establishment of agricultural departments in existing high schools, with State aid, and with rigid definition and enforcement of vocational standards.

3. We recommend that the above provisions shall be considered to be sufficient for meeting the needs of Worcester, in common with those of all other parts of the Commonwealth, and, therefore, to obviate all necessity for special legislation on behalf of that city.

The above recommendations are, of course, to be interpreted in the light of this entire report.

#### PROPOSED LEGISLATION.

The Board is submitting to the General Court a proposed codification of legislation relating to industrial, agricultural and household arts education. In that codification is included what is believed to be ample legal provision for the establishment of a system of agricultural schools.

For convenient reference, a copy of the proposed codification is bound herewith as an Appendix.

## II.

DOES MASSACHUSETTS FARMING WARRANT  
THE ESTABLISHMENT OF A SYSTEM OF  
AGRICULTURAL SCHOOLS?

Does farming in Massachusetts offer sufficiently important and attractive careers to warrant the establishment of a system of agricultural schools in this Commonwealth, to train boys and girls who have reached their fourteenth birthday for farm life and work? The present chapter briefly reviews farming incentives and prospects as they are found in this State to-day.

1. *Incentives to Farming in Massachusetts are Many.* — In a given farming enterprise there may be blended any two or three, or there may be blended all, of the incentives which make farming in this State attractive.

(1) *The stress and uncertainties of other callings* lead many to engage in farming. Severe competition and uncertainty as to the future in business have resulted in the purchase and development of Massachusetts farm land. Prospects for a profitable investment, a stable occupation and a lifelong employment at congenial work are incentives to redirection of effort in such a case.

A section of this State was pointed out, during the investigation leading to this report, which was said to have been bought up, one small holding after another, by "broken-down mechanics." It might be fairly considered one of the least promising sections for farming. The operations undertaken were on a small scale; in no instance on a large one. Health and vigor, and self-sustaining life for their children and themselves, free from the severe competition in the trades and industries, were the primary incentives in these cases.

Farming in Massachusetts has become increasingly attractive to immigrants who have left the old world and come here with the determination to succeed. These immigrants are not so much peasants as they are pioneers. They are thrifty and observant; they are quick to adopt new ideas and methods.

Money is saved and invested. Theirs is a program of hope. As their savings and their holdings increase in value, their standards of living rise; they begin to educate their children, and presently are on a level with other good citizens in their communities.

(2) *The attractions and associations* in the family are strong motives with many. Farm after farm is owned and operated now by the same family, in whose ancestral line it has remained for eight or even nine generations.

(3) *The natural charm of the country* may be said to be the motive for the establishment of the growing number of more or less magnificent estates in Massachusetts. The North Shore, the South Shore and the Berkshires are noted for the men from the great cities and even from distant States who have sought Massachusetts land for its picturesque actualities and possibilities.

Most of these estates possess well-rounded agricultural equipment, and have created a large demand for skilled gardeners, florists, fruit growers, herdsman, grooms and trainers. They employ expert farm managers, and supply their own tables with the cleanest milk and the choicest farm, garden, orchard and greenhouse products. The stables of at least one of these estates shelter harness horse championship winners in international competitions. The owners pay the highest prices for the best-bred live stock, and in notable instances have put their farming operations on a strictly economic basis, as object lessons for neighboring farmers.

Beside and among these more splendid estates there is a multitude of simpler establishments, maintained on a more modest scale, for like purposes.

Sometimes one hears the protest that such estates are, as a whole, detrimental to the public good. Whatever may or may not be the merits of this contention from the point of view of the community at large, it is certain that their establishment cannot at present be regarded as detrimental to the interests of those who must be dependent upon farming for a livelihood.

(4) *A life pursuit to be found in farming* is the compelling incentive of many people who engage in agriculture. This State has its misfits and failures on farms, as in every other

line of human activity; but it also has farmers who love, and are finding profitable, the careers on the land which they have chosen. The success of the latter is undoubtedly due to two causes: (a) to a fundamental liking for the land and all the natural accompaniments of its cultivation; and (b) to the economic status and prospects of farming in this Commonwealth, discussed in the following section. The investigations on which this report is based yielded abundant and convincing evidence that Massachusetts farmers believe, not only that farming in general offers a desirable career, but also that those who intend to make farming a life pursuit in this State will find themselves put to no serious disadvantage because their lot is to be cast in this Commonwealth.

2. *Farming prospects are good*, and are steadily improving. Having glanced over some of the incentives which have led men to engage in farming operations, we may now consider certain facts and figures with regard to the condition of agriculture in this State.

(1) *The agricultural census of Massachusetts* shows that farming prospects are good. The Massachusetts State census for 1905 reported the value of property devoted to agriculture in general in this State as \$288,153,000. The annual farming output was valued at \$73,110,000. The growth of agriculture in importance is shown by the fact that in 1875 the total value of output was \$37,073,000; in 1885, \$47,756,000; in 1895, \$52,880,000; and in 1905, \$73,110,000.

In 1905 the value of the agricultural products of Worcester County was reported as \$14,279,000; and of the city of Worcester alone as \$1,491,000.

There is no reason for believing that State census figures for 1910 would show retrogression. In three decades, ended in 1905, the annual value of agricultural products in this State had practically doubled. The United States census may not show large additions to the agricultural population of this Commonwealth, but it may reasonably be expected to show gains, at least commensurate with those of the last generation, in the annual value of Massachusetts agricultural products.

(2) *Massachusetts farmers say* farming prospects are promising. Most of the conferences held in preparation for this report

were personal interviews with Massachusetts farmers on their own premises, — farmers who are regarded by their communities as thoroughly reliable, and who are dependent on their farming for a living. In all sections of the State the prevailing opinion is that no State offers a better opportunity for profitable agriculture and a satisfactory home life on the farm than does Massachusetts. This was shown by statements such as the following: —

“We have good land.” “We have the best markets in the world.” “We have good roads and short hauls.” “We have excellent shipping facilities, and the cost of shipment is light when compared with the cost of shipping produce from distant points.” “We can generally get enough good help.” “I increase my market garden production a little every year; the more I produce, the more I can sell.”

“The cities are growing so much faster than the rate of increase of production from the land, that excessive competition is not to be feared, and prices for prime farm products are bound to continue good and are likely to become better.” “The great variety of soils and products is favorable to satisfactory farming, taking one year with another, in this State.” “A keen eye to the markets, and shipment to New York or other out-of-the-State points, when prices rule low here and high there, take care of any temporary surplus or slump in home market prices.” “For choice fruit there are almost unbelievable possibilities in the home market, with the port of Boston ready for shipment of practically unlimited quantities, especially of apples, to foreign markets.”

“We have good libraries, public schools and churches.” “The Grange in Massachusetts is a splendid organization for getting the farmers together for pleasure and the improvement of their life and work.”

Such are the things said by the farmers themselves of the advantages of farming in this State.

(3) *The small number of abandoned farms* shows farming prospects to be improving. Secretary Ellsworth of the State Board of Agriculture now has in press a report of 160 pages, entitled “Massachusetts, her Agricultural Resources, Advantages and Opportunities, with a List of Farms for Sale.” The publication of this report at just this moment is singularly opportune, and makes unnecessary any extended treatment in this chapter of the subject now touched upon.

In his preface Secretary Ellsworth says that his publication

is issued at the beginning of an exceptional era in Massachusetts agriculture. . . . While an effort was made to secure the names of parties owning or controlling strictly abandoned farms, the attempt was ineffectual, and we are forced to confess that in our belief there are few such farms in the State. Nevertheless, reports confirm the opinion that there is an enormous amount of land lying idle or partly deserted, and that many farms are not worked to anywhere near their limit.

(4) *Improved tillage* makes farming prospects better. Massachusetts land is remarkably responsive to better farming. Land once tilled but now lying for the moment largely or even entirely neglected may well be regarded as a sign post of dormant fertility. Such land is simply resting. Striking examples of this fact came to view during the investigation the past summer. One instance may suffice for the present purpose, and the fact that this is furnished by the work of a woman whose farm was visited renders it none the less significant.

The owner of an intensively tilled farm, with a model dairy and well-developed piggery, poultry, market-garden and greenhouse departments, desired to increase her output. She therefore bought a 20-acre field. This lay next adjoining her own improved land, but had not been cropped within the memory of the oldest inhabitant of that section,—not for at least sixty years, and probably not for more than a century. It was sparsely strewn with wild grass, gray moss, sweet fern and bayberry. The former owner had often said that he would keep a yoke of oxen if he only thought he could grow enough feed for them, but he did not believe he could do it.

The past summer, its first season in tillage at the hands of its present owner, this field yielded 10 acres of rye, straw and grain; 250 bushels of splendid potatoes; 80 tons of ensilage, now in the silo; 2 acres of heavy field corn, at the time of the interview standing in the shocks; and 2 tons of sugar pumpkins; while at the time the field was visited there were 8 acres in clover, sown in the rye and showing a good “catch,”  $\frac{1}{2}$ -acre in turnips, with the remainder of the field laid down to rye again.

(5) *Increase of investments* in land shows that farming is becoming more attractive as a business enterprise. Keen business sagacity has led a caterer well known in this State to



purchase a farm and develop it as an adjunct to his city business. His farm is a strictly financial proposition. Though model equipment and conditions have been established, he does not use it for a summer residence, and his visits to the farm are for inspection and for conference with his manager. Strict accounts are kept. Waste from the catering kitchens is sold to the piggery department. Poultry, market-garden, piggery, fruit and dairy products are sold to the catering ends of the combined business. The books show that the farm is a paying investment.

"Golden New England," by Mr. Sylvester Baxter ("The Outlook," Sept. 24, 1910, pages 179-190), is an account of the status and prospects of farming in this section. Mr. Baxter gives the following instance: —

On a certain Essex County place a Boston business man has gone into apples in a way that ranks the undertaking as a great business enterprise. A single place, with something like 50,000 apple trees, not only cuts a large figure in Massachusetts, — even in the great west it would mean "going some."

(6) *With little farms*, intensive farming yields large returns. Contrasted with the western prairies, the smaller fields along and among the hills and streams of Massachusetts have seemed to some impossible of profitable cultivation. By them it is even asserted that Massachusetts is "not an agricultural State." Such a remark is met by the Massachusetts farmer with a blank look of amazement. He has no doubt that farming in this State is a permanent and an increasingly important vocation. He knows that fundamental to advancing agriculture is a market commensurate with its output; and he sees the manufacturing towns in his neighborhood growing with a rapidity almost beyond belief.

Even in the west, not the enormous holding, but the smaller one is now recognized as the more promising basis for the most permanent and profitable agricultural production. Evidence is abundant that the little farm may yield large returns. One of the tidiest bits of farming seen the past summer was on a 10-acre farm, of which part was in pasture and only about 6 acres were under cultivation. Some of the land was tilted on

edge, in typical New England fashion. All of the fields were more or less irregular in their boundaries, and from some of them cartloads of stones had been removed, with more to follow. The land was "kept busy." Market gardening was the main feature, but there was fruit; and there were "side lines" of dairying and poultry, for utilizing "clippings" and unsalable remnants of the principal products. This farm is yielding a profit of \$5,000 a year.

Other farms visited, which to the unaccustomed eye might look small, are yielding net returns of from \$2,000 to \$10,000, and even \$12,000, a year. Greater thrift and satisfaction in work well done one could not hope to find in any State.

Mr. Baxter, in the article above cited, gives the following instances:—

A half-acre strawberry patch, . . . yields 5,000 quarts, worth \$625. Eleven hundred dollars have come from an acre and a half of cantaloups. There are thousands of acres in asparagus in Massachusetts alone, with profits of \$300 or even \$600 an acre. An Italian makes from \$4,000 to \$5,000 a year off of 4 acres in market gardening. Five acres in peaches have yielded \$2,500 in one year. Apples! That is a story in itself. And flowers? Well, there is a lady on Cape Cod who makes \$200 or so every summer on a patch of sweet peas little bigger than a city back yard. As for potatoes and corn, there are numerous big records.

(7) *Comparison of productivity* with other States shows farming prospects to be good. Secretary Ellsworth, in the pamphlet before mentioned, is outspoken and explicit in his estimate of the agricultural prospects of Massachusetts. This has previously been intimated, and will more clearly appear from the following passage:—

. . . when ratio of aggregate production to aggregate acreage, yield per acre of certain crops and character of tillage are considered, Massachusetts ranks favorably with the leading agricultural States. The following data, gleaned from the latest official statistics, add strength to this statement:—

In 1900 Massachusetts had 3,147,064 acres in farms, which yielded the previous year \$42,298,274 worth of farm products. As compared with the five leading agricultural States, we find California, with nine times this number of acres in farms, producing only three times as

many dollars' worth of farm products; Illinois, with ten times the farm acreage, producing eight times as many dollars' worth of farm products; Iowa, with eleven times the farm acreage, producing nine times as many dollars' worth of farm products; Kansas, with thirteen times the farm acreage, producing four and one-half times as many dollars' worth of farm products; and Texas, with forty times the farm acreage, producing five times as many dollars' worth of farm products.

Further, from the estimates of the United States Department of Agriculture for 1908 these striking figures are obtained: the average production per acre of Indian corn for the United States was 26.2 bushels; for Massachusetts, 40.4 bushels; of oats for the United States, 25 bushels; for Massachusetts, 33 bushels; of potatoes for the United States, 85.7 bushels; for Massachusetts, 95 bushels. In relative rank of production per acre, Massachusetts stands among the States, for corn fourth, for oats thirteenth, for potatoes twelfth. When compared with the leading States in these products, Massachusetts ranks in production per acre, for corn fourth, for oats first and for potatoes second.

The crops used for comparison are not the leading agricultural products of Massachusetts, but the figures indicate what the intensive methods of agriculture practiced by her farmers is bringing forth from the soil. While comparative figures for other States of those products which are most valuable to Massachusetts are not available, it is safe to assert, without fear of contradiction, that, whereas the production per acre of such field crops as corn, oats and potatoes is relatively high, the production per acre of fruits and other vegetables which respond so much more readily to intensive treatment is not exceeded by that of any other State of the same or higher latitude.

3. *Conclusions.* — It is believed, in short, that the experience of those who are successfully engaged in farming here, and the economic status and prospects of farming in this Commonwealth, show conclusively that exceptional success awaits the work of the exceptional man or woman in this field of economic activity; and that farming is bound to afford a profitable and satisfactory living for the average boy or girl who enters this field with a thrifty, alert and progressive spirit, and with a proper preliminary education.

At the beginning of the investigation leading to this report, the question was raised as to whether a system of agricultural schools would be likely to result in increased valuation of taxable property on farms, and thus return directly to the public treasury at least some portion of its cost. One farmer put the gist of the answers of all his fellows into the succinct reply,

that it did not take the assessors long to discover any improvements that he made on his farm as a result of better methods.

Finally, it appears that farming in Massachusetts, viewed from the standpoint of both its present status and its prospects, is a calling the successful pursuit of which requires a knowledge of the science that lies back of the practice of agriculture as a handicraft; that, in order to secure a widespread productive and profitable agriculture, it is necessary that vocational schools supported and controlled by the public should train the youth in the best methods of farming; and that farming in Massachusetts is a calling of sufficient importance to justify both local and State support of those forms of education that will effectively prepare boys, and, to some extent at least, girls, for it.

## III.

## THE SYSTEM OF AGRICULTURAL SCHOOLS RECOMMENDED FOR MASSACHUSETTS.

It was pointed out in the previous chapter that the condition and prospects of farming in Massachusetts seem to justify a system of agricultural schools. The question arises as to what types of schools are desirable for this Commonwealth. Two promise to be effective. These are the separate or independent agricultural school, and the agricultural department in the public high school.

## 1. SEPARATE AGRICULTURAL SCHOOL.

(1) *Definition and Examples.* — The separate agricultural school aims to promote, by education, economic farming. Its location, plant, staff and courses of training are determined by this object. Such a school may, or may not, be on the same site with an institution of different grade or type. Whatever its proximity to other kinds of institutions, it requires a distinctly agricultural atmosphere and a farming environment.

Instances of this type are: Minnesota Agricultural School, St. Anthony Park; the secondary agricultural courses at Guelph, Ont., and Storrs, Conn.; and Smith's Agricultural School, Northampton, Mass.

(2) *Minimum Standards.* — Present experience seems to show that schools designed to give vocational education must meet certain minimum requirements in order to do effective work. The following may be given as examples of such requirements for the separate agricultural schools: —

A. *Location and Plant.* — a. *Accessibility.* — The economic operation of a separate agricultural school and its usefulness to the State depend upon a considerable enrollment of students. Experience demonstrates that an attendance of less than 100 means either an excessive per capita cost or inferior teaching. The spot selected for it, therefore, should be easily reached from a considerable farming area.

*b. Acreage and Variety of Soil.* — The land should be typical of the surrounding region, and permit of demonstration of the best methods of farming for that section of the State. If not a special school, devoted, for example, to market gardening, it should have a sufficient acreage and variety of land for landscape gardening, forestry and general farm tillage, as well as for gardening and nursery plots.

*c. Buildings.* — The buildings should be especially designed and grouped for the peculiar work of the school. Such buildings as barns and poultry houses should be of the kind any farmer with a moderate amount of capital would wish to erect as parts of a convenient, sanitary and practical plant.

*d. Live Stock.* — Quarters for all kinds of live stock suited to the locality should be provided. The school might, or might not, own the live stock dealt with in class demonstrations. The best obtainable specimens of the breeds studied should be seen and handled, and proper accommodations for keeping them should make it easy to borrow or hire the animals when needed. When not filled with live stock, these quarters would still be on view as models of their several kinds for housing and caring for the various types of farm animals.

*e. Other Equipment.* — The equipment should be modern and varied, but every piece should be applicable to some project in practical farming. Submitted to the test of practical farming, much, for example, of the equipment usually found in high school science laboratories would be omitted and other equipment would be selected. A museum for collecting out-of-date farm implements and machines would serve a most excellent informational purpose; but the main object should be to provide the best models of implements and machines for present economic use.

*B. Support and Control.* — The cost of such schools is large, generally too large to be provided by a single community. In good schools the initial cost of the plant, including adequate land, buildings and equipment, and of providing for from 100 to 150 students, has been from \$40,000 upward. The annual maintenance cost has varied from \$8,000 upward. In some cases the cost has been less than, in others it has considerably exceeded, the figures here named for both plant and maintenance.

*a. Local Support.* — The school should be established and equipped by the local community, — by a town or city, or by a group of towns or cities, or towns and cities formed into a district. This should insure economy of construction and adaptation to local needs. The local community should provide, also, one-half the cost of maintenance.

*b. State Support.* — One-half the maintenance cost of these schools should, in accordance with present statutory provisions, be borne by the State. In consideration of State support, the school should be subject to supervision and approval by the Board of Education as to organization, control, location, equipment, courses of study, qualifications of teachers, methods of instruction, conditions of admission and employment of pupils and expenditures of money.

*C. Conditions of Admission and Promotion.* — All applicants for admission above fourteen years of age should be received, provided, after a brief probationary period, they proved able to profit by the instruction.

Advancement from subject to subject or from class to class in farming subjects should be dependent solely upon the proficiency of the pupil in such subjects, and not upon his standing in English, history or other similar studies. Upon withdrawal from the school, whether upon graduation or earlier in the course, every student should be given a certificate containing a statement of the work which he had satisfactorily completed.

*D. Teaching Staff.* — *a. Vocational Spirit.* — The teaching staff must be in complete sympathy with the vocational purpose the school is designed to serve. The instructors should be chosen from those who have found, or who intend to find, their life work in this field of education.

*b. Fitness.* — Aptitude for teaching fourteen to eighteen year old boys of exceedingly practical interests and tendencies is indispensable. One may succeed as a teacher of men, and fail as a teacher of boys. One may succeed in a cultural school with book subjects, yet utterly fail in teaching practical subjects in a vocational school. To natural aptitude must also be added special training in the science and in the practice of different kinds of farming.

*c. Originality and Resourcefulness.* — In devising and lead-

ing the students to work out definite farming activities, the teachers must be able to bring to bear in new and largely untried ways knowledge of the general field of agricultural science and practice. Having selected things to be done, it must rest with the teaching staff to find help for doing these things, — in related portions of mathematics, chemistry, physical science, biology and economics.

*d. Co-operation.* — One teacher must help another. Unity of effort is no less important than is unity of spirit. All eyes must first be fixed on the things to be done; then, towards doing those things in the most intelligent and skillful manner, each member of the staff should contribute his particular part.

*E. Course of Preparation for General Farming.* — Courses should be provided for boys and girls. The girls should be trained in all household arts and affairs. They should also be allowed, if not required, to take training in such subjects as gardening, poultry raising, bee-keeping and ornamental planting. Here, however, only the agricultural course as designed for the boys is discussed.

*a. Length of Course.* — A four-years course for boys entering at fourteen should be provided. Each year, however, should be complete in itself. This would permit of withdrawal with profit at the end of any year. It would permit, also, of admitting for a year, or for two years, an older student who could not give longer time to the work.

*b. Length of Session.* — The year should begin not earlier than the middle of September, and close not later than the middle of June. This would make possible a school year of thirty-six weeks, or a school year of some fifty weeks, under a co-operative home and school plan. The period of each school day devoted to the school study and activities should probably not exceed six hours as a maximum. The time before and after the daily school session and on Saturdays would afford proper opportunity for day-to-day work at home, where continuity of effort, as in the care and handling of live stock, is a necessity.

*F. Principles to be observed in Methods of Instruction.* —  
*a. Interest.* — The essential minimum of the study of books should be combined with the maximum attention to practical work. Things themselves should be handled, studied and rea-



soned about; operations, many in number and of an extremely practical nature, should be performed. General rules, statements or ideas may follow fresh handling of concrete detail, — they should seldom precede it.

*b. Responsibility.* — Active relationship to real life, and persistent participation in farming affairs while the student is yet in school, should be fundamental aims. Methods should be developed, therefore, which involve student ownership and home co-operation.

*G. Gradation of Farming Activities or Projects.* — *a. First-year projects.*<sup>1</sup> — The first year should deal mainly with projects which involve an elementary knowledge of soils and plant life, together with the mathematics related thereto. Kitchen garden vegetables and flowering plants should be grown.

*b. Second-year Projects.* — Certain second-year projects should involve extensive experimental study of agricultural botany; others should involve the scientific principles and the mathematics necessary for successful work in handling the smaller farm animals, such as poultry, pigs and bees.

*c. Third-year Projects.* — Fruit-growing and market-gardening projects should receive chief attention in the third year. The first principles of agricultural chemistry and the manipulation of the laboratory apparatus required for their elucidation should be mastered. Some attention should be given to the mathematics required for field surveys, for business transactions and for figuring the cost of producing and marketing the crops under consideration. A careful study should be made of the pumps, engines and other mechanical devices necessary for spraying.

*d. Fourth-year Projects.* — The major projects of the fourth year should deal with animal husbandry, including dairying. There should be one term of advanced agricultural chemistry. Here the greatest maturity in age and mental grasp have been attained. The largest money values are here involved, and the most difficult problems of land fertility, rotation of crops, rations, breeding and animal diseases are here to be finally dealt with. Farm management, law of contracts and farm accounts should be studied.

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<sup>1</sup> The word "project," as here used, is defined in chapter V.

*e. Possible Modifications.* — It is believed that the above gradation of projects by years would be found a good outline for the development of courses of study suited to local needs. It would afford much flexibility as to details of schedules and instruction. At the same time it is recognized that other outlines worthy of approval may grow from year to year out of the work of the separate agricultural schools.

*H. Good Citizenship.* — Along with the major farming interests of these four years there should be developed the interests and powers of good citizenship, through reading, discussion of current events, and the clear and logical expression of ideas in writing and public address.

*I. Home Residence and Work.* — *a. Home Influence.* — Students should reside at home. The age of the students makes this desirable, if not imperative.

*b. Home Experimentation.* — Residence at home should vastly multiply the benefits of the school. There would be opportunity for the orderly but immediate trying out of new ideas and methods, where otherwise habits of postponement would be formed. From day to day the teachings of the school should be subjected, on a modest scale at least, to the practical tests of the home farm conditions of every student. In no other way can the maximum value of such a school be realized.

*c. Home Credit.* — Home work should be provided for in the system of marking, and full credit for it should be given towards graduation. For promoting a keen spirit of emulation, gatherings of pupils, parents and others should be held at the best farms, or where the teachings of the school are best exemplified. Prizes for excellence in home work should be awarded.

*J. School Supervision.* — Home work should not only be advised or suggested, it should also be actively supervised from month to month. At least one instructor should be employed for this purpose throughout the growing and harvesting seasons.

*K. Student Ownership.* — *a. At the School.* — All flower and vegetable gardening products of the student plots at the school should be the property of the students, provided the plots be regularly and properly cared for throughout the sum-

mer. The plots should be of such size that about one-half day a week during the summer would suffice for their cultivation. Experience has shown that plots of this size yield crops of sufficient value to repay the students for their work. Here school control should be absolute.

*b. At Home.* — Parents should give the students at least modest property rights at home, and exact proportionate responsibility and industry. Part of the garden might be given or rented the first year; a pen of poultry, a pen of pigs and a hive of bees, the second; part of the orchard, the third; and a cow, the fourth. Accurate account of outgo and income should be kept in all cases.

No better test of the practicability of the teachings of the school could be made. Though school control is likely to be more or less modified by home control, good results should still be had by proper choice of projects and harmonizing of interests.

*L. School Operations and Products.* — *a. School operations* should be primarily for educational purposes. A bad method may be followed, and beside it an approved method; the profit of one may, or may not, offset the loss of the other: Both together make a perfect demonstration for purposes of instruction.

The results of such demonstrations should be followed and observed at proper intervals by the students. They should be required to report at the school on the call of the instructor for noting the demonstration work of the school in connection with the instruction they have severally received.

*b. School Products.* — Apart from the products of the first-year gardening work, all products of the school farm should be disposed of for the benefit of the school. The operations of the school departments should be under the direct control of the instructors who teach the subjects the departments represent. Accurate profit and loss accounts for each department should be kept.

*M. The Special School.* — A separate agricultural school might be either general or special in character. If general, such a school would undertake, usually by a four-years course of training, to fit its pupils for at least the general lines of farm

production practiced in the surrounding territory. If special, a separate agricultural school might limit the length of its course to one or two years, and confine its instruction to a single specialized line of production, such as market gardening. Such a special school might receive students after they had spent two or more years in an agricultural school devoted to preparation for general farming; and it might also admit older students without previous preparation in a general school, if they were able to profit from the training offered.

*N. More Advanced Education.* — If on graduation a student should desire to enter the Agricultural College, one or two years of further study at his local high school should enable him to meet the conventional college entrance requirements. He might have to enter conditioned in one year of French or German; but a condition in such a subject could be easily removed, since credit should be given for his extensive agricultural training.

(3) *General Observations.* — That a thoroughly vocational education in agriculture can be given in the separate agricultural school, where properly equipped, has been sufficiently demonstrated by experience to be beyond the range of uncertainty. As noted before, however, such a school in this State should be so situated as to be easily accessible to 100 or more pupils; its plant would be expensive and its maintenance cost by no means small.

The separate agricultural school, as herein discussed, might be a local school, readily accessible to a considerable farming population, whose pupils lived at home and secured a part of their practical training through the directed performance of their duties on the home place; or it might be a boarding school for pupils gathered from a considerable area.

Such a local school is impracticable in agricultural areas intersected by mountains and pasture lands, where but a comparatively small number of suitable pupils are within daily travelling distance of a central point. Many communities of this type exist in Massachusetts.

Many towns or groups of towns, so situated, are able to maintain only moderate-sized high schools, and have within easy reach only a limited number of students. The taxable valuation

of these small centers of population would forbid the existence of so expensive an institution as the separate agricultural school. In a system of agricultural education designed to meet the needs of the youth of the entire Commonwealth, it would probably be necessary to provide either the boarding school of agriculture or the agricultural department in the public high school, for the training of the young people of the isolated communities.

The boarding school of agriculture is worthy of consideration, because of the attention which it has received in other States. It does not, however, seem necessary to adopt it under the conditions which prevail in a compact State like Massachusetts, where distances are so short and transportation facilities are so good. Rather it is believed that here the separate local agricultural school (without the boarding feature) should serve the needs of thickly settled farming districts; and that the agricultural department in the rural high school, as described in the closing part of this chapter, should, instead of the boarding school, train for effective farming those who live in the more sparsely populated farming communities.

## 2. SEPARATE AGRICULTURAL DEPARTMENT.

(1) *General Observations.* — In preparing this report, a careful analysis has been made of the conditions of the smaller communities as related to the necessary conditions of vocational education in agriculture, with the result that a type of school found developed to some extent in Canada suggests itself as being the most feasible means of meeting Massachusetts requirements. This has been styled the agricultural department of an existing high school, and contemplates the building up within an ordinary high school of a vocational department, corresponding to the vocational departments in commercial studies found in some village high schools.

From facts and conditions adduced below, it is believed that in some localities in Massachusetts, under very careful supervision, such agricultural departments would be possible, and could, if rightly administered, give genuine vocational training in agriculture. The "part-time work," or school and home-farm co-operative method, discussed in chapter V. of this report,

would, it is believed, make such departments vocationally effective as preparatory courses for productive farming in this Commonwealth.

(2) *Definition and Present Attempts.* — Vocational agricultural education as a separate department in a high school should be as distinctive in its object and atmosphere as is the separate agricultural school. Such a department would best be established in a secondary school which had a farming environment and an abundance of readily accessible illustrative material, in varieties of farm land, equipment, operations and products.

There are fourteen departments somewhat of this type in the Province of Ontario: six established in 1906, two in 1908, three in 1909 and three in 1910. It is intended to develop this work until every county in that province has been covered.

Work of like nature is now being given its first year of trial by the Friends' Bloomingdale Academy, Bloomingdale, Parke County, Indiana. The practical courses in farm management established by the Agricultural Guild of the University of Chicago, in 1908, utilize for practical experience farm equipment privately owned and land operated for economic purposes, as distinguished from land and equipment provided and maintained by endowment or public funds.

(3) *Minimum Standards.* — The agricultural department must maintain minimum standards of similar character to those fixed for the separate agricultural school. An outline is here given of vital factors for the success of such a department: —

*A. Instructor.* — There should be at least one specialist for instruction in agriculture. This teacher should be a man, should preferably have been brought up on a farm, and should, where practicable, be a graduate of an agricultural college. In short, he should be, first of all, practical, a man interested in farming and capable in farm work and management.

His time and attention should be devoted exclusively to farming subjects. His service should be rendered throughout the growing and harvesting seasons, in part as supervisor of school projects at the homes of the students, in part as teacher of agriculture at the school. He might also, if requested to do so, act as advisor among farmers in the vicinity of the school.

*B. School Quarters and Equipment. — a. Class Room. —* A class room should be given this instructor for his exclusive use. This should be on the ground floor, or in a high, well-lighted basement, and should be such as to permit of in-door demonstrations of farm animals, implements and machines. It might, or might not, be in the high school building.

*b. Equipment and Appurtenances. —* His equipment should at least include a Babcock testing outfit, seed-corn germinators, special agricultural physics apparatus, individual sets of gardening tools, hot beds and cold frames. Greenhouse space, though not more than a 6-foot by 30-foot lean-to, heated from the regular school-heating plant, would be an advantage; as would, also, be an acre of land for garden, nursery and demonstration plots.

*c. Headquarters for the Instructor. —* An office should be provided. This should be large enough for a library and reading room, and fitted up for such use. There should be furnished in this room as complete a file as possible of books, bulletins and periodicals on farming specialties.

*C. Home Equipment and Co-operation. —* Practically all the materials, implements and animals required for demonstrations should be brought to the school by the students, or should be examined on thrifty farms not too far distant. Everything examined would thus be part and parcel of actual farming outfits: each implement, animal and building would represent some farmer's judgment and money. The school would at every point be dealing with definite economic propositions.

*D. Conditions of Admission and Promotion. —* Boys above fourteen years of age should be admitted to the work of the agricultural department of the high school when, upon trial, they show themselves able to profit by the training, even though they have not satisfactorily completed all the work of the elementary school. Girls of the same age might attend certain classes. It would be necessary, as is pointed out at another place, for those pursuing the work of the agricultural department as an elective course to take all studies save the art and science of agriculture in the regular high school classes. No student should be prevented from attending the agricultural classes or

be deprived of promotion in them by inability to take high rank in other subjects.

*E. Course of Study.* — The agricultural department in the school should offer training in the practice and the science of agriculture. The course in agriculture should be elective to the regular pupils of the high school, and, as before said, should be open to those above fourteen who intend to be farmers, even though they might not be able to pursue successfully certain other branches of study offered by the school. Regular pupils pursuing the course in farming should be permitted to substitute satisfactory work therein for the requirements of the school in such cultural subjects as Latin or German, or for certain courses in physics, chemistry and biology.

In this way it would be possible and advisable that regular pupils, pursuing, as a legitimate part of their study, the course in agriculture, should at the close of a four years course graduate with their fellows, and receive a certificate or diploma setting forth the work which they had satisfactorily performed.

The school course should permit of continuous work at home, morning, evening and on Saturday, as in the separate agricultural school.

*a. Dominant Motive.* — As in the separate school, the atmosphere and the dominant object in the agricultural department should be agricultural and vocational. Much of this atmosphere might with profit be extended to other departments of the school. Contact with farming objects and activities would vitalize the instruction in the regular courses in science and in manual arts.

*b. Grouping Studies and Students.* — By putting first and second year students together in one class, and third and fourth together in another, each student would be given double the amount of distinctively agricultural training by the instructor which would be possible were the students handled in four divisions instead of in two. By the same means the efficiency and enthusiasm of the teacher would be multiplied. In alternate years the energy and attention of all could be concentrated now on animal husbandry and then on horticultural subjects, or *vice versa*.



*c. Winter School at the Agricultural College.* — Moreover, the regulations should permit a student who could meet the age requirement to take winter short courses, at least during his third and fourth years, at the Agricultural College, with no prejudice to graduation with his class; that is to say, credit for a short course at the college should be accepted as meeting in full the winter-term demands of any year at the school.

*d. Schedules of the Instructor and Students.* — The program should schedule the instructor for from sixteen to twenty periods a week during the fall and spring terms, and allow the winter term for his vacation. The instructor, in close connection with his class instruction, should be scheduled for inspection and advisory work at the homes of the students and among other farms throughout the summer.

*e. Transfer of Students to a Special School.* — Should a special school for such training as market gardening be established, with a one-year or a two-years course, a student desiring the special training of such a school might be transferred to it at the close of the second or third year of the general farming course of the agricultural department of an existing high school.

*F. Support and Control.* — *a. State Support.* — The salary of instructors for such departments would probably vary from \$1,000 to \$1,500 a year, and should be paid in part by the State, as elsewhere proposed in this report. (See Appendix, page 292.)

*b. Local Support.* — Quarters and equipment, and the necessary adjustments of curriculum for providing a well-balanced course of study, inclusive of the agricultural subjects, should be furnished by the local authorities. If the local school possessed wood-working, forging and drawing equipment, correlation of the manual arts work with farming would add decided value to the work of the agricultural department. The local authorities should also pay one-third of the instructor's salary.

*c. Local Committee.* — This department might be visited by a special local committee interested in practical farming, and the advice of such a committee might be sought in developing this branch of the work of the school.

*d. State Supervision and Approval.* — All matters relating to organization, control, location, equipment, courses of study,

qualifications of teachers, methods of instruction, conditions of admission and employment of pupils and expenditures of money, while immediately in charge of the local school authorities, should be subject to supervision and approval by the Board of Education.

*G. More Advanced Training.* — A student who had decided to go to college should find the same opportunities open for preparing himself for college entrance as does the student in the separate agricultural school. An unusually capable boy might carry a course in mathematics or a foreign language in the regular classes of the school while taking his agricultural course. On completion of his agricultural course, one additional year of study would perhaps suffice for completing his college preparatory work.

Up to this point this report has discussed the farming situation in Massachusetts that seems to justify a system of agricultural education for the Commonwealth, the types of vocational schools in agriculture that seem to be advisable for such a system, and the standards which should be insisted upon in order to make their work effective.

## IV.

CO-OPERATION BETWEEN SCHOOL AND HOME FARM  
NECESSARY TO AN EFFECTIVE SYSTEM  
OF AGRICULTURAL SCHOOLS  
FOR MASSACHUSETTS.

The previous chapter discussed the separate agricultural school and the agricultural department in a high school as desirable types of vocational school education in agriculture for Massachusetts.

It is the purpose of the present chapter to point out why co-operation between the school and the home farm is necessary, in order to make the work of such schools effective.

*Vocational education* is education that has for its controlling purpose the fitting of persons of either sex for definite callings or pursuits. Vocational schools of every type are coming to a recognition of the fact that practice and thinking about the practice, practical and technical training must go hand in hand in effective vocational education.

The reason is not far to seek. Most people learn better by seeing and by doing, than from books. The experience of a considerable portion of the pupils in industrial and agricultural schools proves conclusively that many persons who have been unable to master principles and theories as taught by the ordinary method of the book, have large power of mastering principles when these are approached through the background of their daily employment; and that, best of all, they possess large capacity to retain and apply knowledge so taught and so comprehended.

*Practice and thinking about the practice* constitute the key to the situation. Industrial and trade schools are securing the needed practice for their pupils to-day, either through school shops which they are endeavoring to make economically productive, or through the actual wage-earning occupations of the pupils. Thinking about the practice is secured by a properly selected and adjusted course of closely related studies

at the school in which part of their time is spent. The shop provides in illustrations and practical work the raw materials; the school, the finished educational product.

*Farm Boys may be favorably placed, but require Concurrent Practice and thinking about that Practice.* — Boys and girls who expect to follow farming for a living probably are not exceptions to the general rule. Vocationally effective education for them, also, must involve an intimate relationship between practical and technical training.

*Related Study at the School.* — The question now arises, Where is the boy to secure correct experience in farming? It will not be difficult for the school to give related scientific knowledge, provided the pupil brings to it a background of experience in agricultural activities that enables him to assimilate it, and provided he is able, through his practice on a farm of some type, to fix the principles and theories gained in the school room.

*Previous Farm Practice not Sufficient.* — It seems to be clear that the pupils of an agricultural school do not, as a rule, bring to their studies about agriculture a body of previous farm experience which the school can utilize in giving a working mastery of the principles and theories that lie back of the best practice. The greater number come from farm homes where they may, or may not, have been fortunate enough to receive directed practice in scientific agriculture. There is at least a slight movement from city to country. It may be expected that a small portion of the enrollment in agricultural schools of secondary grade will consist of city and village boys who have had no training in the routine of the farm. In order that such boys may bring to their training something like the same advantages possessed by the country-bred pupil, they should, if possible, previous to entering the school have spent at least one year on a farm. While this discussion is primarily concerned with the country-bred boy, it is, in the principles it lays down, equally or even more forcibly applicable to the city or village boy who has farming aspirations.

The previous farm experience of the country-bred boy may have been directed by a farmer who has been too hard pressed

by his own farm routine to reflect on his own practice in agriculture, or to direct the work of his son so that it might be most educative from the vocational point of view.

It is significant that many of those who are most desirous that their sons shall receive agricultural education through the instruction and direction of the school are among the most intelligent and prosperous farmers in the Commonwealth. They clearly see, for the reasons given in chapter VII., that even the best farmers cannot expect to be the best schoolmasters in this line of training.

The condition of Massachusetts farming in general is not satisfactory to the leaders of agriculture nor to the community at large. This means that most farm boys, so far as they bring farm experience to the school, are more likely to have been brought up to use bad or indifferent methods than to use the best.

Moreover, the boy of fourteen as a rule has been too young to have been able to reflect seriously or extensively on the problems connected with the agricultural activities which he has observed or in which he has had a part.

It is possible, even in the absence of closely related practice, to give much effective vocational training in the sciences related to different farming operations to those of mature mind who have had experience in them. A farmer, for example, who had formerly kept a herd of cows, might attend a course of instruction in the principles of scientific dairying. By this means he might make a second venture in that field more intelligent and more profitable. No one will question, however, that the dairyman who was able to put into immediate effect in his own herd the scientific knowledge gained in such a course would acquire a greater working mastery of the principles that lie back of the successful pursuit of his calling.

It seems to be clear, in short, that the more or less elementary, more or less undirected or misdirected, more or less undigested farming experience of the country-bred child cannot, in the absence of additional practical training, be made a safe basis for the effective teaching of agriculture as a vocation.

It is true that, on entering the agricultural school or an agricultural department in a high school, that boy or girl must

derive greatest profit who brings to the work the richest store of previous practical farm experience; but even with the best-prepared pupil it will not be safe to suppose that farm experience of the younger years will be found fixed and vivid in the memory, to be drawn upon at will, as the classroom discussions shift now to one phase and now to another of farming.

Past experience may aid in the work, and will do so to the extent to which that experience was intelligent and to the extent to which it remains vivid. Practical farming and the book study of the subject, concurrently carried on under the direction of a specially prepared instructor, appear to be the only certain method of securing these ends. Thinking may refer back to this experience to some extent; it must to some extent anticipate future activity; but in the main it is believed that the training of the agricultural school, to be effective, must at once provide, and thereafter concurrently interrelate, as far as possible, these two supplementary processes, — directed farm practice and study about that practice.

*Provisions for Proper Farm Practice.* — How many school authorities secure for pupils seeking preparation for profitable agriculture properly directed experience in farming processes? Agricultural schools of every type, in order to be effective, should, it is believed, provide at least a small equipment on or near the school premises, for observation and demonstration work in correct methods of farming. Such an equipment would be possible in the typical rural community. A few communities may be sufficiently prosperous to establish and maintain agricultural schools equipped with the farming plant, equipment, animals and materials necessary to diversified and effective training in the arts of agriculture. Such an outlay of public money probably lies, if not beyond the resources, at least beyond the civic power, of the typical rural community which most needs agricultural education.

If agricultural schools could be equipped with extensive school farms, it would be necessary, in order to secure the best results, that pupils should devote a considerable portion of their time, now employed at home, particularly in the growing season, to directed activities on the school premises. But it would

be impracticable to withdraw to any great extent boys from service on the home farm for service on the school farm. Furthermore, all the operations connected with the tillage of the soil, such as the care and observation of experimental tracts, lack significance until the seasons of growth and harvest, — seasons that find the school session ended, and the pupils widely scattered and possibly engaged in cultivating or harvesting the crops on the home farm.

As the most promising solution of the problem of securing effective vocational training in agriculture, this report recommends that the home farms of the pupils be utilized in what may be termed “part-time work” in agriculture.

*Part-time work in agriculture* would be utilizing home land, equipment and time, outside school hours, for practical training supervised by the school. The term “part-time work” is a descriptive expression, brought over from current discussion of certain forms of industrial training, for use in unfolding the possibilities of this proposed type of training in the field of education in agriculture. Part-time work in industrial education means that the student spends part of the time required for his training in a shop or manufacturing establishment, and part of the time at the school building; both school and shop work, however, being intimately related and supplementary to each other.

Part-time work as applied to agricultural education would mean that the student must spend part of the time required for his education in productive farm work, preferably at home, and part of his time at the school; the farm work and school study to be closely correlated by the school at points selected from season to season or from year to year, and to be given the highest possible educational value by competent school supervision.

*Equitable.* — The same causes that have brought about a widespread demand for co-operation between school and shop in industrial training, make just as necessary similar co-operation between the school and the home farm in agricultural training. Historically, shop and farm at one time gave the youth all his vocational training. Of late the tendency has

been, under the stress of modern conditions, to throw upon the schools almost the entire responsibility for the industrial and agricultural education of minors. It is becoming increasingly apparent that the school cannot meet this difficult and expensive burden, unaided. It would therefore seem to be equitable that the schools should bestow the related theoretical instruction which they are so well designed to give, leaving to factory and farm the task of giving, under expert direction, the practical experience which they are well equipped to confer.

*Economical.* — Such part-time work would reduce the cost of agricultural training of secondary grade so as to place effective training for the farm within the reach of many communities which would otherwise be unable to secure it. Part-time work would obviate the necessity of sending the boy away from home in order to secure the benefits of agricultural training. The cost of living for the boy would be less at home than at a boarding school. Parents would be deprived of the services of the boy during only a portion of the day.

*Effective.* — Co-operative work between the school and the home farm would be the most effective known means of trying out, under the conditions of individual farms over widely scattered areas, methods which have proved to be profitable elsewhere, as, for example, at the State Agricultural Experiment Station. Such co-operation would furnish the only experimental means by which each boy could try out the merits of the home farm as an agency for producing profits, when treated by the best-known methods; that is to say, part-time work would furnish the only means whereby the principles and methods taught by the school could be positively adapted by the boy to the economic conditions on the farm on which he might spend his working days. Part-time work thus should give to agricultural teaching the reality of actual life, as but little school training can give it.

*Conclusion.* — It is believed, in short, that every purpose of economy in the establishment and maintenance of a system of agricultural schools, and of efficiency in the education provided, would be insured by utilization to the largest possible extent of home land, equipment and time in the training of boys for the successful pursuit of farming in this Commonwealth.



## V.

THE PART-TIME AND PROJECT METHOD NECESSARY  
TO AN EFFECTIVE SYSTEM OF AGRICULTURAL  
SCHOOLS FOR MASSACHUSETTS.

The present chapter outlines a method by which, it is believed, education through the plan of "part-time work" in agriculture, recommended in chapter IV., may be made effective.

Under the "part-time work" plan, developed into a system for the whole State, centers would be selected. The instruction would be adapted to the kinds of farming prevalent in the districts surrounding those centers. The practical applications of the instruction would thus be subject to the obstacles continually encountered under the economic farming conditions found in any given district; just as they would, also, be aided by all the influences in this Commonwealth which make for the improvement of farming. The plan, as an educational process, is believed to possess unquestionable merit, because farming activities would readily resolve themselves into what may be termed farming "projects."

*A Farming Project is a Thing to be done.* — 1. *Improvement Projects.* — The thing done might contribute some element of improvement about the farm, as constructing a concrete walk leading to the front door, the planting and nurturing of shade trees, the making and maintaining of an attractive lawn.

2. *Experimental Projects.* — The thing done might be of an experimental nature, as the planting of an untried variety of fruit, the feeding of an untried ration, the testing of an untried spraying mixture, or the testing of one or another of much advertised roofing materials.

3. *Productive Projects.* — Finally, the thing done might be of a productive nature, as the growing of a crop of clover or alfalfa, the growing of a field of potatoes, the growing of a crop of silage corn, or the production of eggs for the market.

*A Farming Project is, further, Something to be done on a Farm, which would involve a Limited and Definite Amount of*

*Equipment, Materials and Time, and which would be directed toward the Accomplishment of a Specified and Valuable Result.*

— 1. *Improvement.* — An improvement project might be limited, for example, to a given length and width of concrete walk, constructed of a given kind of stone, sand and cement, costing not to exceed a given sum of money, and requiring not to exceed a specified amount of time.

2. *Experimental.* — An experimental project might be limited, for example, to the planting of a given number of trees of an untried fruit, on a piece of ground which could well be spared for such a hazard, and involving a cost in time and money which it was felt could be afforded at a given time for this risk.

3. *Productive.* — A productive project might be limited, for example, to the growing of a given area of clover or alfalfa, at a given cost for seed, fertilizer and labor, and for the securing of a specified quantity and value of feeding stuff or roughage.

*Finally, a Farming Project, as the Term is here used, is a Thing to be done on a Farm, which, in the Preparation for doing it and in the Carrying of it out to a Successful Result, would involve a Thorough-going Educational Process.* — 1. *Improvement.* — The improvement project of constructing a concrete walk to the front door might involve the study of the nature of cement; its action on sand and gravel or broken stone; its resistant qualities to the weather; the seasons at which it could be used; its cost, as compared with other materials, such as boards, plank, tar, brick, flagging and asphalt; the mathematical determination of the proportions of cement, sand and stone to be used; the geometrical determination of the sections into which it should be divided, and whether it should be crowned or flat; the geographical sources of the raw material; and the market conditions for purchasing cement.

2. *Experimental.* — The experimental project of planting an untried variety of fruit might involve the study of the probable adaptability of the variety selected to the soil, the climate and the market demands within reach of the farm.

3. *Productive.* — The productive project of growing a crop of clover or alfalfa might involve the study of the various varieties of clover; the comparative adaptability of these varieties

to the given field on which the crop was to be grown and to the climate of the locality; the most reliable places for the purchase of seed; the best time for seeding; the best time for cutting; the best methods of curing and storing; the mathematical calculation as to the saving in cost of feeding stuffs which the crop would afford; the chemical elements it would furnish in the ration; and the chemical, biological and mechanical effects on the soil in which it would be grown.

*A Complete Definition of a "Project" as here used has Three Elements.* — Thus, it will be seen that a complete definition of a farming project as here used involves the three elements of (1) something to be done on a farm, (2) under specified conditions and for a specified valuable result, and (3) requiring a thorough-going training.

*Project Fields or Classes.* — There are certain broad, general fields in which numerous projects might be found. Among these are: —

Vegetable gardening.

Flower gardening.

Landscape gardening.

Orcharding.

Small fruit growing.

Growing of general farm crops.

Farm forestry.

Greenhouse crops.

Production of poultry products.

Beekeeping.

Swine husbandry.

Sheep raising.

Horse raising.

Dairying.

Agricultural physics and mechanics as applied to farm buildings, drainage, irrigation, and providing and maintaining farm machinery.

*Major Projects.* — Projects within the above general fields might be major projects. Of major projects, the following may be given as examples: —

1. *Caring for the Kitchen Garden.* — Under the direction of

the school, a boy over fourteen years of age might be required or permitted to cultivate the kitchen garden for supplying the family with vegetables or small fruit.

2. *Keeping a Pen of Poultry.* — Under the direction of the school, he might be required or permitted to keep a pen of, let us say, twenty-five birds, for the purpose of producing a net profit on the enterprise.

3. *Caring for a Selected Part of the Orchard.* — Under the direction of the school, he might be required or permitted to care for a part of the home orchard, say five apple trees, so as to improve the quality of the fruit and thus gain a larger net return.

4. *Raising a Specified Crop of Potatoes.* — Under the direction of the school, he might be required or permitted to raise on the home farm an acre, or a tenth of an acre, of potatoes, according to his age and strength, so as to secure the best possible crop and the largest possible financial return.

5. *Caring for One Cow.* — Under the direction of the school, he might be required or permitted to care for one cow in the home herd, with a view to securing from her the highest production of which she was capable, and to determining whether she were yielding an adequate profit.

*Major and Minor Projects.* — While the above does not constitute by any means a complete list of possible major projects, it is intended to be suggestive of the many and diversified kinds of projects that might be feasible for use in the part-time work under consideration. A major project may include a great many minor projects.

*Minor Projects are related to Major Projects as Parts to the Whole.* — Minor projects include all the diversified activities which the boy must perform in order to bring the major project which he had undertaken to a successful conclusion.

*Details of a Project Suitable for First or Second Year Instruction.* — Later in this discussion (pages 248–252) details are given of a project suitable for use with third or fourth year students. The subject in that case is a staple product likely to be grown on every farm, or at least in every farm garden.

At this point in the present chapter it is desirable that the possible working out of the project method of instruction should be illustrated by details of a subject which would be suitable for use with students of the first or second year.

In the list of major projects above given, the second, "Keeping a Pen of Poultry," will, perhaps, best serve this purpose. This project permits of clear analysis. It is sufficiently familiar to make intelligible such technical terms as it may be necessary to use. It deals with a branch of agricultural production found on every farm and at many village homes; yet a branch from which, when conducted on a strictly business basis, it is very difficult to make a profit. It has to do with farm products which are of very great economic importance for the advancement of agriculture in this State; since Massachusetts, while admirably suited for poultry keeping, imports \$25,000,000 of poultry and eggs annually, and produces less than \$6,000,000 worth per year. (See "Agriculture of Massachusetts," the report of the Secretary of the State Board of Agriculture, 1909, page 119.)

Owing to the attention now being given poultry keeping by the agricultural colleges and experiment stations, materials for teaching the subject scientifically and practically are increasing, and make this one of the most promising lines of project instruction for school use. Poultry keeping affords one of the best projects for transition from the boy's treatment of animals as pet stock to his treatment of them as vital factors in economic agricultural production.

Important as this poultry project is, however, it will, of course, be understood that there are many other projects suitable for first and second year use. This project is but a single example of the many which might have been given.

*Minor Projects.* — Suppose the major project in preparation for purposes of instruction be No. 2, above given, "Keeping a Pen of Poultry." Then certain minor projects necessary for carrying out this major project might be:—

1. *The building of a poultry house* (if necessary), according to plans and specifications worked out at the schoolhouse. This minor project in turn could be broken up into a number of

subordinate minor projects necessary to its successful completion, such as: —

(1) *The Selection of a Site for the Poultry House.* — Here the decision made might take into consideration: —

- A. The suitability of the soil for poultry culture.
- B. The condition of the underdrainage of the site, and the possibilities of securing proper surface conditions.
- C. Conditions of sunlight and shade as factors in the proper care of fowls.
- D. Convenience of access from house and barn.

(2) *The Adoption of a Plan for the Poultry House.* — Here the decision made might take into consideration: —

- A. The style of construction best adapted to the purpose for which the structure was to be used.
- B. The size of the poultry house necessary to the success of the project.
- C. The fittings which would be most sanitary, most convenient, and therefore on the whole most economical.

(3) *The Materials entering into the Construction of the Poultry House* (involving kind, cost and availability). — Such questions as these would naturally present themselves: —

- A. Should the foundation be permanent, or temporary?
- B. What sizes of dimension stock would be required?
- C. Should the flooring be earth, boards or cement?
- D. Should the siding be rough, or planed; matched, battened, or protected by paper?
- E. Should the roofing be shingles, matched or battened boards, metal, or some form of patented roofing of the rubberoid type?
- F. Should the building be painted; and, if so, what would be the best-wearing and most economical color and mixture? When should the paint be applied?

2. *The selection of birds*, as determined by the purpose in keeping them (whether for show stock or utility, breeding or egg producing). This minor project in turn might be broken up into a number of subordinate minor projects necessary to its successful completion, such as: —

(1) *The Choice of Type and Breed.* — Such questions as these would naturally present themselves: —

- A. Is a meat type of bird desired; and, if so, what is the best breed or type? Is color of any importance?
- B. Is the egg type desired; and, if so, what variety? Should the color of the egg be a determining factor?
- C. Among what may be termed general-purpose types, what may be considered the best stock both for egg production and for final finishing as table birds?

(2) *The Choice of Breeding Stock.*

- A. When should breeding stock be selected and assembled for production of the eggs required for hatching?
- B. Should close attention be paid to breed shape?
- C. To what extent and for what reasons should color and plumage be determining factors?

(3) *The Choice of Method of Beginning the Project.*

- A. Should the beginning be made with eggs; and, if so, where can the eggs of the breed and type desired be secured? What would they cost, and when should they be ordered?
- B. Would it be more economical to begin operations with incubator chicks a few days old? If so, where could such chicks be had, when could they be had, and at what cost?
- C. Should the beginning be made with full-grown birds? Where could they be had, when, and at what cost?

3. *The Feeding of the Poultry.* — This minor project might in turn involve a number of subordinate minor projects necessary to its successful completion, such as: —

(1) *The Selection of the Kinds of Feed.* — Such questions as these might naturally present themselves: —

- A. When should hard grains be used?
- B. What are the merits of ground grains, as distinguished from hard grains?
- C. Under what circumstances are mixtures and mashies desirable? Should these be fed wet, or dry; and should they be home-made, or bought on the market?
- D. In what proportions should animal feed be provided, and in what form or forms could it be most economically fed, — in beef scraps, for example, or in green bone?
- E. Should green feed be furnished? For winter feeding, what quantity, if any, of cabbages and roots should be stored?

(2) *Working out Problems of Feeding.* — Such questions as these might naturally present themselves: —

- A. To what extent should there be a variety of feeds?
- B. What relationship do feeding and exercise bear to each other?  
Should dry grain be fed in the litter, or be fed in hoppers, or both? What differences should there be, if any, between feeding on free range and feeding in confinement?
- C. What part should grit, oyster shells or charcoal form of the ration, and for what reasons?
- D. To what extent might feeds be grown at home, and to what extent must they be bought on the market?

4. Other minor projects within the major project of “Keeping a Pen of Poultry,” which might also be analyzed into numerous subordinate minor projects, each necessary to the successful performance of the larger minor project and the major project of which it forms a part, are: —

- (1) The production of eggs with profit.
- (2) The production of chicks by incubator.
- (3) The care of chicks by artificial brooding.
- (4) The rearing of chicks.
- (5) The handling of young stock.
- (6) The fattening and killing of poultry.
- (7) The marketing of eggs and birds.

In like manner, every major project similar to those heretofore described, chosen by the school for purposes of instruction, might be analyzed into the minor projects of which it was composed, both in order that the various activities of the boy in the successful accomplishment of the major project might be effectively directed and supervised, and, as we shall see later on, in order that the theories and principles related to the different phases of his task might be given at the time when they would be most effective from the practical and the educational points of view.

Three factors must, it is believed, determine the measure of success in any given plan of part-time work in agriculture: (1) the farmer and his farm; (2) the school and its agricultural supervisor; (3) the boy and his projects.

1. *The farmer and his farm* must constitute the fundamental



factor in the practical training of the boy. There could be little effective work in the field of part-time training for the farm without a reasonable spirit of co-operation on the part of the parent.

There are at least three ways in which the parent could aid in making the directed farm experience of the boy more educative: (1) in the use of the home plant; (2) in the use of the home time of the pupil; (3) in giving the boy's projects economic importance.

(1) *In the Use of the Home Plant.* — One of the most essential features of the co-operative part-time plan between home and school is that the parent should be willing to devote from time to time, in accordance with the plans of the supervisor or teacher in charge of the work, a reasonable portion of his buildings, orchards, garden, pasture, forest and other fields, and of his implements and machines, animals and materials, to the directed training of the boy.

(2) *In the use of the home time of the pupil the fullest value* of the agricultural course will come from the fullest possible participation of the boy in the ordinary routine of farm work as usually carried out by the parent; but the greatest benefit of the school cannot be had without the use of a part of the boy's time, during the hours spent at home, for strictly school purposes. The following are a few of many illustrations of what might be the directed use of a part of the home time of the pupils in the pursuit of projects suggested and directed by the school: —

- A. The boy might help with the milking throughout his course, where the object was to get the cows milked as quickly as possible, and where no records were kept. During certain months of at least one year, the school should require whatever time might be necessary for keeping an accurate record in pounds and ounces of the yield of a part of the herd. This might be limited to the weighing of milk from a single cow, and giving the cow credit for what she produced.
- B. It might be part of the boy's business to assist in feeding the cows. During part of his course, sufficient time should be given for weighing the ration and charging at least one cow with what it cost to keep her.

- C. In the ordinary routine to which he had been accustomed in milking, much or little attention might have been paid to cleanliness of cows, utensils or the person and clothing of the milker. During part of his time in school, the boy should be given whatever time might be necessary for milking at least one cow and preserving her milk under absolutely sanitary conditions, and for sampling the milk for bacteriological tests.
- D. In the ordinary cropping of the farm, much or little attention might be paid to leguminous crops. But during one season at least, facilities should be given the pupil for growing a patch of moderate size of clover, and for observing the effect of introducing a large proportion of clover into the ration of the cow.
- E. In the ordinary conduct of the farm, much or little attention might be paid to the selection and testing of corn for seed. But prior to planting, one season at least, the boy should be given whatever time might be necessary for making germination tests of the corn which it was proposed to plant.
- F. Also, during one season, the boy should be given control of a portion of a corn field for making an "ear to row" corn test; for observing the difference in yield from different ears of corn,—all the corn from one ear being planted in one row and all the corn from another ear being planted in another row.
- G. In the ordinary routine of the farm, it might be the business of the boy to tend the poultry. During at least one year, he should be given control of at least one pen of poultry, and facilities for feeding a balanced ration and trap nesting individual birds for comparison of productivity in laying.
- H. It might be part of the usual work of the boy to help cultivate and harvest the potato crop. During one season at least, he should be given facilities for testing the value of the use of formalin for the prevention of potato scab, and of the Bordeaux mixture for protection against potato blight.

(3) *In giving the boy's projects economic importance, the active aid of the parent would again be almost indispensable.*

A. *Keeping Accounts.* — Whether or not the parent were in the habit of keeping books, it would be vital to the success of the school training that accurate accounts of outgo and income should be kept with regard to certain home projects directed by the school. Every boy should be taught business-like methods for carrying on work. Modern business methods provide for discovering exactly where money is made, and where it is lost, at any stage or in any part of a given enterprise.

The boy should be given opportunity for testing, under his home conditions, the value of methods which have proved efficacious in business. The school, to be effective, must teach economic production in every phase of farm life for which it gives preparation. Moreover, accounting is necessary to any intelligent comparison of the effectiveness of the method advocated by the school with that of the method previously followed.

*B. Projects as Business Enterprises.* — If the experiences of the boy in the farming projects are to be educative to the largest degree, it is believed that they should be conducted strictly as business enterprises. Four methods of meeting the problem of the cost and profit of these directed farming operations would be possible: (*a*) the parent might meet all the cost, and give the boy all the profit; (*b*) the parent might meet all the cost, and retain all the profit; (*c*) the parent might meet all the cost, and share the profit with the boy; (*d*) the boy might receive the net profit, after the cost of the project had been paid.

From the educational point of view, the last method, by which the boy, after conducting the given project as a business enterprise, should profit only to the extent to which his total receipts exceed the total cost of the enterprise, is believed to be in every way preferable. By this method the boy would learn, once for all, through his own experience, that there can be no product without cost, and no profit without excess of receipts over all expenditures. After such an experience, he would not be likely to undertake a new enterprise without a serious attempt to estimate accurately his probable profit. The boy would be subjected to the prevailing economic conditions under which the home farm must yield a profit, or a loss, at the end of each year of work.

The method by which the boy became on a small scale a farmer or a business man for himself would give the project which he was carrying on a reality not otherwise attainable, that must heighten measurably his interest in the work and in the related study of the school, and must fix better than by any other device the training which he was receiving.

Incidentally, it may be remarked that, as a matter of public spirit, the citizens of the community might do much to further

the objects of the school by admitting the agricultural instructor or supervisor and his students to their premises, for the examination of animals, machines and all out-door and in-door operations, and by explanation and discussion of their methods of accounting and their improved farming processes. At another point in this discussion the possible fields of usefulness to a community of such an instructor or supervisor are pointed out. Effective service on the part of the supervisor in the field of helpful suggestion there mentioned could be rendered only where there was a cordial attitude of co-operation on the part of the people in the community who were desirous of either the improvement of rural conditions in general or the betterment of their own farms.

2. *The School and its Supervisor.* — Whether part-time work in agriculture were conducted under the auspices of a separate agricultural school or of a separate department in a regular high school, it is believed that it would require the services of a trained and experienced agriculturist, who should devote his entire time to teaching the principles and the best methods of farming. It is believed, further, that largely through this instructor or supervisor of agriculture the school should: (1) choose the projects to be undertaken by the boy; (2) direct his work in the discharge of his projects; and (3) put him in possession of the principles that relate to them.

(1) *In the selection of the projects to be undertaken by the boy*, the instructor should take into consideration: —

- A. What farming enterprises are profitable, or could be made so, in the neighborhood.
- B. The age of the boy.
- C. The kinds of projects that would be feasible on the home farm.
- D. The boy's routine farm work at home.
- E. The assistance that the father could afford to give in materials and equipment.
- F. The suitability of the project to the season of the year.
- G. The projects and portions of projects that could best be carried out at the school, and the best time on the program of the year for these parts of the work to be done.

The problem of the building of a poultry house by the boy would be one of the possible minor projects, as before shown, when the larger project of keeping a pen of poultry was under

consideration. This problem would naturally involve such questions as these:—

- A. Would the student have the necessary time?
- B. Could the necessary materials be provided by the parent or student?
- C. How much personal supervision of the actual work of construction would be necessary or advisable on the part of the supervisor?
- D. Would profitable poultry keeping on a given home farm require the improved accommodations which the model poultry house, built by the student, would furnish?
- E. How far would conformity to the standards set up by the school be necessary in determining what would be a model type of poultry house for a given farm?
- F. In what year of the school course should the building of a poultry house be undertaken, in order that the training in poultry keeping might be made most profitable?
- G. What time of the year could the student build a poultry house to best advantage?

The problem of conducting the building of the poultry house as a strictly business enterprise is a project which would naturally involve these questions:—

- A. To what extent, if at all, could the boy be required to meet, or be charged with, all cost save his own labor, and be credited with a fair inventory valuation of the completed structure?
- B. If the parent must advance the money or materials, what rate of interest, if any, should be charged the boy?
- C. What method of accounting should be adopted?
- D. Should such records be kept as would enable the cost of this building to be compared with other similar buildings in the neighborhood, as a check upon the business-like character of the boy's working out of this project?

(2) *In directing the work of the boy in the discharge of his projects*, the school must of necessity, it is believed, undertake the supervision of a portion of his work at home. Supervision of part-time work in agriculture would not be an attempt on the part of the school to interfere with the private management of the farms of the parents. Supervision would, nevertheless, be a continuous effort by the school to assist, advise and encourage the students in applying under home conditions, farm methods which had proved successful elsewhere, and thus to cause the practical training of the students to result in vocational efficiency.

*The instructor would not undertake* to supervise all the details of the farm management on any given farm. Daily supervision would be impossible, because of the number of farms to which the work of the school must be extended. Excessive attention to minute details of farm work on the part of the instructor might create needless friction between himself and the parent, or might interfere materially with the supervision of a proper amount of project work. It is, therefore, not contemplated.

The school should not, it is believed, undertake to shift responsibility for the economic management of a farm from the shoulders of the parent to the shoulders of the public.

*The instructor would undertake* to supervise certain selected major projects and their related minor projects performed by the boy at home. In a given year and season attention might, for instance, be concentrated upon the project of keeping a pen of poultry. Having given the study related to this project, the instructor would supervise the application of that study. The following examples illustrate what the character of such supervision might be:—

- A. In the building of the poultry house, the actual work of putting up the structure might, or might not, be supervised by the instructor. All other elements or phases of the enterprise, as indicated by the outline, should be worked out by the student under the direction of the school.
- B. The course in farm shop work of the school might well undertake to deal with the problem of the actual construction of the poultry house.
- C. It would be the duty of the instructor or supervisor to canvass thoroughly with the student the relative merits of different types and methods of poultry keeping, from the points of view before indicated. His supervision might go the extent of passing judgment on any proposed purchase of breeding stock, chicks or eggs.
- D. The supervisor would not personally direct the daily routine work of feeding and watering poultry. His duties would consist of directing the thorough study of possible feeds and mixtures, their comparative cost and availability, and their suitability to the age, condition and purpose of the student's particular birds. For such supervision personal knowledge by the instructor of the exact home conditions would be necessary.

The supervision of the practical home work of the boy or girl would naturally follow the settlement of such problems as these: —

- A. How could supervision and instruction be closely correlated?
- B. How should the time of the instructor and of the pupil be apportioned between home and school duties?
- C. What would be the maximum radius, from the school building as a center, of effective supervision?
- D. What methods might be employed for securing and holding the co-operation of the parent and the community?
- E. By what means might satisfactory standards in the practical work of the student be maintained?

Thus far we have discussed the duties and responsibilities of the special instructor or supervisor of agriculture *in the field of direction* of the boy's projects on the home farm.

*The instructor might undertake* to give help to others than those connected with his school. There are not wanting those who believe that such an agricultural instructor attached to a regular high school might render valuable service to the community in which he was employed, in what might be termed *the field of suggestion*. Considering the previous training and experience required of this instructor, he should be a man well prepared to be of wide assistance in a farming community as an advisor in emergencies which called for special knowledge and skill. If met by a problem with which he could not cope unaided, — and there might be many such problems, — he would know the best men, books and bulletins for consultation in such emergencies. Such problems might arise from attacks upon crops by injurious insects or by fungous diseases.

The friendly advice which the agricultural instructor might give need not mean a meddlesome attitude on his part. His suggestions would not be given save when requested, or when it was evident that they would be welcome.

*The field of suggestion* would naturally begin with farms represented in the school by students. The instructor would of course stand ready to give the parents any advice of which he might be capable, or to get for them, or instruct them how to get, any information which they might need or desire. With the

gradual extension of his knowledge to the other farms of the community, he might be expected to stand ready in a similar manner to be of assistance to the owners of those farms.

3. *The boy and his projects* form a natural connecting link between the farmer and his farm, on one hand, and the school and its instructor, on the other. At the farm, the pupil deals with the practical aspects of his projects; and at the school, with their scientific aspects. The foregoing discussion has been devoted chiefly to the practical aspects of the proposed project method of instruction. The present section lays strongest emphasis on the related study essential for the successful carrying out of a particular project.

*Details of a Project Suitable for Third or Fourth Year Instruction.* — Earlier in this chapter a project was dealt with which might, for the most part, be successfully carried out by a first or second year student. For the present discussion a project has been selected which would require considerable maturity of age, strength and training for its successful accomplishment. It is true that simpler problems in potato growing have been successfully carried out by elementary school pupils; but even a glance over the elements which enter into the project now to be outlined will show that problems altogether too serious to be comprehended or undertaken by the younger pupil are here involved.

It is to be understood, of course, that the following project is but one of many which might be selected.

(1) *Major Project.* — It is assumed that the boy has chosen for his major project the development of a method for increasing the profit from the potato crop customarily grown on the home farm. It is further assumed that 5 acres of potatoes are generally grown; that this year the crop is to be grown on clover sod; that the variety of potatoes to be grown has been chosen by the father; and that the boy's father is willing that his boy shall have complete control of a given number of rows of the 5-acre field, and shall be furnished the necessary tools and materials for his project.

(2) *Minor projects* necessary for carrying out the above major project might then be as follows: —



*A. Insuring the most abundant crop by:—*

*a. A Proper Seed Bed.*—The related study here would involve knowledge of:—

- (a) Conditions of soil, air, texture, temperature and moisture most favorable to the growth of the potato plant, including methods of reducing an undesirable amount of “free” water, of avoiding too great dilution of plant food, and of securing a desirable amount of “film” water.
- (b) Methods of preparing the seed bed, including the comparative advantages of fall and spring plowing, and the best treatment of the land in the spring after plowing and prior to planting.

*b. Proper Fertilizing.*—The related study here would include knowledge of:—

- (a) Chemical composition of the potato plant, its osmotic and digestive processes, and the quantity of available fertilizing materials it is capable of assimilating.
- (b) Complete fertilizers for the production of potatoes, including analyses of standard fertilizers, and the plant-food values for potato growing of chemicals and mixtures offered for purchase.
- (c) Comparative desirability of muriate and sulphate of potash for producing a crop to be disposed of in an immature state as new potatoes, or for producing a crop of late potatoes to be disposed of for winter use; and the extent to which the “mealy” character of the mature crop should be the determining factor in choosing between these two kinds of potash.
- (d) Clover sod as a factor in determining the proportion of nitrogen to be supplied.
- (e) Best formula for a complete fertilizer for this particular crop, taking into account the potato plant, the previous crops and their fertilizer treatment in the system of crop rotation followed on the home farm, the present soil conditions and the purpose of the crop.
- (f) Most liberal amount of fertilizer warranted for use in growing this particular crop, in view of the known condition of the land and the assimilative powers of the potato plant; and the saving in cost by home mixing of the supply to be used.

*c. Using the Best Seed.*—The related study here would include knowledge of:—

- (a) Botanical characteristics of the potato plant; the difference between a seed and a tuber; and potato improvement by various methods and conditions of propagation, taking into account tendencies of the potato plant to "variation" and to "mixing in the hill."
  - (b) Importance of planting "seed" selected in the field from the best-yielding hills, rather than seed selected from the bin merely by size of tubers.
  - (c) Advantage of using potatoes for planting which have been properly stored, and the effects of freezing and sprouting in the cellar.
  - (d) Conditions under which it may be desirable to sprout potatoes to be used for planting, in a warm, well-lighted room, — the temperature, the time and the care in handling required for such sprouting.
  - (e) Size of piece and number of eyes to the piece, as important factors in starting the crop and in the quantity of its yield.
- d. *Proper Planting.* — The related study here would include knowledge of: —
- (a) Botanical and chemical characteristics of the potato plant, as to its feeding habits, the growth of the tubers, and the effect on the tubers as food products of exposure to the sun during their growth.
  - (b) Distances between rows, and between seed pieces in the row.
  - (c) Depth of planting, in its relation to protection of the tubers from the sun, shielding the crop from possible rot-producing bacteria and spores, and subsequent cultivation, whether by the "level" or by the "hill" method.
  - (d) Best time for planting, whether for "early" or for "late" potatoes.
- e. *Proper Spraying.* — The related study here would include knowledge of: —
- (a) Botanical characteristics of the potato plant, particularly the relation of health and luxuriance of foliage to tuber production.
  - (b) Insect enemies of the potato plant, and their entomological characteristics, such as their methods of propagation and their feeding habits.
  - (c) Depredations of insects, and their possible relation to attacks upon the potato plant by plant diseases.

- (d) Paris green: its chemical composition; its protective action against the insect enemies of the potato plant; dangers attendant upon its use; its possible combination with Bordeaux mixture; and the best formula, method of preparation and periods for its application.

*f. Proper Cultivation.*—The related study here would include knowledge of:—

- (a) Physical characteristics of the soil, particularly the capillary movement of water to the surface of the soil, and exhaustion of soil moisture by evaporation.
- (b) Surface conditions most favorable for receiving rain water without washing, puddling or subsequent baking.
- (c) Value of a "soil mulch," and the most desirable method and frequency of cultivation for maintaining such a mulch.
- (d) Comparative cost and advantages of "level" and "hill" cultivation, and reasons for the choice of the particular method to be followed in cultivating the present crop.

*B. Insuring the cleanest crop by:—*

*a. Dipping the "seed" potatoes* in a formalin solution. The related study here would involve knowledge of:—

- (a) Plant parasites which produce "scabby" potatoes, and the biological conditions favorable and antagonistic to their growth.
- (b) Formalin solution: its chemical constitution; its chemical action on these damaging potato parasites; and the proper formula and method for its use in protecting the potato crop.

*b. Substitution of chemical fertilizers* for barnyard manure. The related study here would involve knowledge of:—

- (a) Dangers of infection from the use of barnyard manure.
- (b) Dangers of infection, if any, from the use of chemical fertilizers.

*C. Insuring the soundest crop by spraying* the potato plants with Bordeaux mixture. The related study here would involve knowledge of:—

- a.* Bacterial and fungous diseases to which the potato plant is subject; evidences of their presence; and whether or not they are preventable.
- b.* Bordeaux mixture: its chemical composition; its protective action against potato-plant diseases; and the best formula, method of preparation and periods of application for its use.

*D. Other minor projects* would include the most profitable means and methods of harvesting, storing and marketing the crop. And other study related to these projects would include knowledge of potato implements and machines and their use; the comparative advantages of field pit and cellar for storage; principles and means of ventilation, and the temperature at which potatoes should be kept; near and more distant markets, and comparative transportation cost; prices and the probable tendency of prices. in view of the press and government reports of the potato crop for the State, New England, the country and the world.

*General Observations on Related Study.* — The study related to the work of carrying out this potato project embraces, therefore, important matter from several sciences, including botany, chemistry, physics, entomology, bacteriology and plant pathology. For the calculations, mathematics would be necessary; for keeping the accounts, bookkeeping would be required; for correct correspondence, there should be training in business English; consideration of transportation, markets and world production would involve knowledge of commercial and agricultural geography.

The project method of instruction on the side of related study, thus, it will be evident, must insure that the boy, in carrying out his projects, shall pass through a thorough-going educational process.

*Good Citizenship.* — It is proposed, furthermore, that the division of time, in carrying out the school and home farm co-operative method of training, shall be about as follows: for the execution of the projects, including work during vacations and other out-of-school hours, 50 per cent.; and for the related study, 30 per cent. The remaining 20 per cent. of the time of the boy is expected to be used for general culture and good citizenship instruction, wherein systematic courses may be provided in such subjects as English, history, civics, current events, mathematics and science.

*Conclusion.* — It is believed that the vocational education for farming proposed in this report, and embodying the project and part-time work method outlined in the present chapter, will

justify itself from every reasonable point of view, and that the system of agricultural schools which this report recommends will prove to possess undeniable merit as training schools, both for farming as a definite calling, and for intelligent and vigorous participation in the community life of the Commonwealth.

## VI.

THE PROBLEM OF SECURING COMPETENT INSTRUCTORS  
FOR A SYSTEM OF AGRICULTURAL SCHOOLS  
IN MASSACHUSETTS.

It would seem evident from the preceding discussion of the duties and the opportunities of the instructor in agriculture that he is probably the most important factor in the training of the youth for productive and profitable farming.

Whether he be employed in a separate agricultural school or as an expert in charge of an agricultural department in a regular high school, the special instructor or supervisor in agricultural education should bring to the work certain qualifications as to preparation, experience and personality.

*He should be a Graduate of an Agricultural College.* — His preparation should include graduation from an agricultural college or its equivalent. He should be familiar with and keep in touch with the officers and the work of the Massachusetts Agricultural College and Experiment Station; and he should keep in touch with the experiment stations in other States where work is being done under conditions similar to those in Massachusetts.

He should be familiar with the work of the United States Department of Agriculture, so far as it is applicable to Massachusetts. He should be capable of keeping in touch with new literature in pamphlet, periodical and book form, as it is issued, and to the extent that it may be applicable to his locality. He should be familiar with the work of organizations concerned with rural progress in Massachusetts, and capable of heartily co-operating with their officers.

*His Experience.* — Preferably, such a person undertaking to prepare for agricultural teaching in this Commonwealth should have been reared on a Massachusetts farm, or on a farm where the agricultural operations would yield experience of value for work in this State. He should be a master of farming as a handicraft, and amply able to demonstrate the things which he undertook to teach; and he should be familiar with, and

be able to demonstrate the use of, the kinds of farm machinery which can be economically used on a Massachusetts farm.

*His Personality.* — Since he must teach, such an instructor or supervisor must be effective in discipline; that is to say, in the handling of boys and girls. He must be prepared to meet people in his community pleasantly, and establish agreeable working relations with them. He must be prepared to maintain harmonious relations between his department and the other departments of the school, and be amenable to the authority of the officers responsible for the school which he serves.

*The duties of such a teacher of agriculture*, attached to either a separate agricultural school or an agricultural department in a regular high school, should in general be those which were indicated in the foregoing discussion of the activities in the field of part-time work in agriculture which he is to direct.

*His school year* might provide, at the discretion of the school authorities, for service during the spring, summer and fall months, giving him a vacation during the winter months; rather than for service during the fall, winter and spring, with summer months for vacation purposes. Such a program would insure his services throughout the growing and harvesting seasons.

*His absence during winter months* would not seriously disturb the curriculum of the school; on the contrary, it would make room for the teaching of related subjects, including manual training projects related to the farm, by other members of the staff to the lower classes, and might enable the higher classes to take winter short courses at the Agricultural College. Such a program would enable him to attend winter courses, and thus keep in touch with progress in agricultural science, and become better acquainted with men engaged in research and experimental work.

*The appointment and tenure* of such a supervisor should be under the control of the local authorities, but subject to the approval of the State Board. Where the supervisor is to serve a separate agricultural school, as at present constituted and administered under the Massachusetts statutes, or an agricultural department in a regular high school, since his salary in either case is to be paid in part by the local community and in part by the State, it would probably be advisable that he should be non-

inated by the local authorities and approved by the Board of Education; and in case of dismissal for cause, it would probably be best for such a dismissal to be approved by the Board.

Ordinarily, the yearly term of service for such a supervisor should be from the first day of April of any given year to the first day of April of the succeeding year. Dismissal for flagrant offense should, of course, be immediate and without notice.

*The salary of such a supervisor* is an important consideration. Experience seems to show that, in order to command the services of a man having the technical training, practical experience and personality called for in the above discussion of the necessary qualifications of a successful supervisor, salaries ranging from \$1,000 upwards must be paid.

In Ontario, where salaries for teachers and specialists of every type are on the whole less than in the States, six supervisors, with advisory and teaching duties, were engaged at the beginning of a co-operative scheme between the governmental agencies for agricultural betterment and the local school authorities. These supervisors were paid at the outset, \$1,000 per year.

*The Problem of Necessary Salaries is an Economic One at Bottom.* — In order to attract to the work a supervisor of the type herein described, it will be necessary to make the compensation which he is to receive as good as, or better than, that which is offered to him in competing lines of work.

By competing lines of work are meant occupations to which his interests, his talents and his preparation might attract him. The following positions at least lie within the possibilities of the desirable graduate of an agricultural college, and therefore constitute competing lines of work: agricultural management work (for others or for himself); agricultural editorial work; agricultural commercial work; agricultural government work; agricultural research work; agricultural extension work; agricultural teaching in colleges; agricultural teaching in high schools; agricultural teaching in agricultural schools; agricultural teaching in departments in regular high schools; assistantships where valuable experience under highly specialized supervision is to be had.

In a very exhaustive study of the preparation and salaries of teachers giving instruction in agriculture in high schools, Mr.



C. H. Robison finds that the prevailing rate of pay received by desirable students in agricultural colleges immediately after graduation is \$1,200.<sup>1</sup>

Such a supervisor must at the present time command a salary at least as high as, if not higher than, the average male teacher in ordinary high school work. Graduates of classical colleges are much more abundant and available for teaching in secondary schools than are men qualified to teach agriculture.

*The demands upon the teacher who is to serve as a supervisor of part-time agricultural work are so much more exacting than the demands upon the instructor in old-line training, that men possessing the requisite qualifications of personality and executive ability are at a premium.*<sup>2</sup>

The salaries now paid to special teachers of agriculture of secondary grade are likewise significant. Mr. Robison presents a table (No. 41) giving the salaries of 33 agriculturists engaging in school work in the past two years. Of these, the first 10 employed as assistants received less than \$850; 23 received \$900 or more; 21 more than \$1,000; and 16 more than \$1,200.

The salaries now commanded by teachers giving special instruction in agriculture in public high schools and other public secondary schools would seem to indicate that the salary of the supervisor described herein must be not less than \$1,000, and must probably be more than that amount per annum, if competent men are to be secured for the work.

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<sup>1</sup> In a thesis prepared for a doctor's degree at Columbia University, Mr. Robison gives a list of 179 men graduating from agricultural colleges in the school year 1907-08. This list shows that the salaries of over four-fifths of these men were rather evenly scattered between \$750 and \$1,200. The 24 higher-degree men received an average of \$1,208.33, the prevailing rate being \$1,200. The general average of salaries for the 1907 group was \$947.50, and for the 1908 group \$921.50. The lowest salary received was \$450, and the highest \$1,700.

The significance of the above statistics lies in these three considerations: (1) that the salaries tabulated were commanded practically on graduation day, and hence do not represent the added compensation which efficiency born of experience brings; (2) that the salaries tabulated include, possibly to an extent of more than a majority of the cases, the earnings after graduation of men not capable of acting as supervisors of agricultural training; (3) that the salaries were not confined to men entering educational work.

<sup>2</sup> The report of the National Educational Association, through its committee on salaries, tenures and pensions of public school teachers in the United States (1905), gives the average annual salary of male teachers other than principals in the secondary schools of Massachusetts outside of Boston as \$1,269; of male teachers and principals, \$1,470; of male principals, \$2,261.

## VII.

AGRICULTURAL DEPARTMENTS IN PUBLIC HIGH  
SCHOOLS THE PRINCIPAL PRESENT NEED  
IN MASSACHUSETTS AGRICUL-  
TURAL EDUCATION.

The foregoing chapters of this report have been devoted largely to a description of various features of the work of the separate agricultural school and of the agricultural department in the public high school, as being the two types of training most desirable for a system of agricultural education in this State. It is the purpose of the present chapter to discuss the probable part which each may be made to play in such a system, and the special need of the agricultural department.

To-day in Massachusetts there are three kinds of agricultural education: one for adults; another for children; and a third for pupils of high school age.

*Adult Agricultural Education.* — Agricultural education suitable for adults was the first to receive attention, and has been most elaborately developed. It now includes public exhibitions, lectures and demonstrations; books, periodicals and papers; field meetings held on farms, movable schools and better-farming trains; correspondence instruction and college courses. Among the most active agents in promoting this work for adults are the State Board of Agriculture and the Massachusetts Agricultural College.

*Elementary Agricultural Education.* — The place of agriculture in the education of children is discussed in chapter XI., where it is shown that promising beginnings have already been made in teaching elementary school children certain rudiments of agricultural fact and practice. The State normal schools and interested superintendents of schools have been the most active agents in this work. Valuable assistance has been given by the Massachusetts Agricultural College.

*Secondary Agricultural Education.* — Agricultural education suitable for pupils of high school age is found in three forms:

the private school, of which the Mount Hermon School for Boys, with its elective courses in agriculture, is the most prominent example; the public high school, with some agricultural instruction, of which there are said now to be twelve examples in this State; and the State-aided agricultural school of strictly vocational character, of which there are now two examples, — the Smith's Agricultural School at Northampton, and the Montague Agricultural School at Montague.

*The principal present need*, it is believed, is legislative provision of State aid for the establishment and maintenance, in existing high schools, of thorough-going vocational departments for the preparation of boys, and perhaps some girls, for Massachusetts farming. In other chapters this report gives evidence that farming in this State offers a good future to those who have been properly trained for engaging in it, and outlines a method for making agricultural education for those above fourteen years of age vocationally effective.

The present law provides State aid for independent agricultural schools. This provision should be continued. But it is believed that this legislation is not adequate for meeting the immediate requirements of the State as a whole.

*Only One Rural School has become an Agricultural School.* — Under the present law, only one rural school has been reorganized, and converted into an agricultural school, — the school at Montague.

*But One School built, and that by Bequest.* — Moreover, but one new agricultural school has been established, — the school at Northampton. Without the Oliver Smith bequest, it is perfectly evident, to those who know the situation, that the city of Northampton would not now have that institution.

The school has drawn its students from sixteen towns outside of Northampton, as well as from the city itself. It is in reality a school for a considerable district, rather than for a single city.

In the natural course of events, Northampton, or any other city with a considerable industrial development, would see itself well equipped for industrial training before it would, or perhaps could, give a thought toward the establishment of an

agricultural school for the benefit of its outlying and more or less scattered farming population.

*Six Agricultural Schools might be warranted.* — There would undoubtedly be ample need of the ultimate establishment in this State of five or six independent agricultural schools.

*Districts or Benefactors might build them.* — If the burden of establishing such separate agricultural schools is too great to be assumed single-handed by most towns, it is to be hoped that private philanthropy, seeing the need, may be induced to supplement limited public resources.

A group of towns may join in a district and find the undertaking quite within its grasp. In Essex County there is what appears to be a well-developed movement for the immediate establishment of such a school. By degrees the requisite number of separate schools for meeting the needs of the training such schools could so admirably give, may be secured.

*The State should help maintain; it should not help construct or equip.* — It is plainly the established policy of the State to aid in maintaining industrial and agricultural schools, but not in their construction or equipment. The State must not undertake more than it can carry out; and it is already evident that at no distant date the share of the State in meeting the cost of even one-half of the maintenance charges of vocational education will heavily tax its current resources.

*Present Need of Agricultural Departments, therefore, the More Urgent.* — Since the demand for vocational agricultural training of secondary grade is pressing, and the establishment of agricultural schools is likely to be long delayed, the need for agricultural departments is seen to be the more urgent.

*Fifty Departments for the Cost of Ten Schools.* — The cost of establishing a vocational agricultural department in a regular high school would be comparatively slight, — not a tithe of the cost of constructing and equipping an independent agricultural school. Moreover, fully fifty departments could be maintained for about what it would cost to maintain five large, well-equipped and effective agricultural schools. The provision of agricultural departments strongly commends itself, therefore, on the grounds of economy.

*Departments would reach the Greatest Number.* — An agricultural department close at hand, which permitted the boy to live at home and help with the farm work morning and night and on Saturdays, would be most likely to appeal to parents who were in modest circumstances. Practically all parents, however well-to-do or however needy they may be, are rightly reluctant to have their children leave home at fourteen, or even at sixteen or seventeen years of age.

Many agricultural departments widely distributed through the State would induce the attendance of the largest number of pupils, and thus provide a system of agricultural education suited to the needs of the greatest number of farm homes.

*Departments would demonstrate.* — Surrounded by farms, vocational agricultural departments in high schools would at once enlist the motor instincts and activities of the boys from these farms in the carrying out, simultaneously with their school instruction and as a vital part of it, of practical farming projects on their own premises.

The best methods would be told and shown. And most boys, as well as most men, in agriculture as in all other productive pursuits, make their best progress by being told and shown, man to man, what to do, and why and when and how to do it.

*General Schooling not Enough.* — Even in Massachusetts, where the school-going habit has been developed among the people at large to at least as favorable proportions as in most parts of the world, school instruction has had almost no direct bearing on the probable life work of a great number of boys and girls; and to-day, except in very few instances, it yields no practical knowledge or skill to those boys whose severest need is education for efficiency in the work and affairs of modern farming.

*Books and Bulletins are not Enough.* — How many of the rank and file of busy farmers have had the time, the opportunity or the inclination for learning the alphabet of agricultural science, — that difficult alphabet, in which the most valuable bulletins and treatises on modern agriculture are written? The higher the aspirations of the men of agricultural knowledge, and the more commendable their accomplishments in the conquest of

agricultural science, the more difficult of comprehension do their published works become in the hands of the man hard pressed by the daily affairs of farming.

The need of the hour is the need of the teacher who can simplify language, and tell the boys who are to be farmers in a given town or district the practical bearing of the best research in agriculture on their problems; and who can show the boys, on their own farms and in the laboratory demonstrations at the school, the best methods which are applicable to Massachusetts conditions. It is to meet this need that a system of agricultural departments is proposed in this report.

*The Farm is not Enough.* — It has been said that “The worst thing about farming in New England is that almost any kind of farmer can get a living on almost any kind of farm.” Productive farming — the farming for which additional vocational training is here proposed — is not eking out from the land the nakedest necessities of life. Productive farming is farming for the community, not merely for the individual; it is economic farming, and as such contemplates profit in proportion to the service it renders the community, — in proportion to the quantity and the quality of the commodities put upon the market. Such farming demands the highest operative skill, the keenest scientific insight and the broadest outlook over the wants and the welfare of the community. Many men on Massachusetts farms to-day are doing exactly this kind of productive farming. They have built up their ability through long years of experience. They would be the best possible schoolmasters for their sons in this skillful work, this scientific insight and this breadth of outlook.

But, just as the lawyer who must practice law is generally unwilling to teach it, so the productive farmer, who must meet the pressing demands of economic agricultural operations, and who in most cases must be at once the skilled operative, the scientific observer and the capable business manager, cannot stop to teach his boy the many things he ought to be taught in the years following his fourteenth birthday.

If this is true of the farmer of exceptional ability, it is even more evident among farmers in general throughout the Com-

monwealth. There is no reflection in this observation on the "old stock" or on the immigrant. The statement is put forward as a matter of fact, and shows a condition which has grown, and must continue more and more to grow, out of the exigencies of modern economic agriculture.

If the office alone is not enough as a training school for modern commerce, it becomes increasingly evident that, while the farm must have a necessary part in agricultural education, as is shown in chapters IV. and V. of this report, it is not enough for the training of the prospective productive farmer. The agricultural departments would undertake to render a service to productive farming like that rendered the world of business by the public school department of commerce.

*Open Doors of Opportunity.* — Mr. D. J. Crosby, specialist in agricultural education of the Office of Experiment Stations, Washington, D. C., has written that he hopes to see secondary agricultural education throughout the country "Open at both ends," — open at the beginning, so that the farm boy can enter; and open at the end, so that those farm boys who desire to go on to higher agricultural training shall be able to do so.

The agricultural departments, as shown in another chapter of this report, would admit any farm boy who had reached his fourteenth birthday, without regard to whether or not he could pass entrance examinations for admission to high school, provided he could demonstrate his ability to profit from the agricultural instruction offered. This would open the door for the boy who might not be "bookish," but who might be capable of making excellent progress in applied science as worked out by the project, or part-time, method proposed in chapter V. of this report.

Fuller opportunity, at the same time, would be afforded the boy who might be both "bookish" and "practical," for advancing in both agricultural and academic training. As stated in chapter V., 20 per cent. of the boy's time would be definitely reserved for broadly cultural education. If a boy who was training for farming valued graduation from an even more strongly cultural course, one that perhaps even included Latin or Greek, and if he were able to cover the ground re-

quired for such graduation without detriment to the vocational training in his agricultural course, he, too, should find wide open before him a door of opportunity commensurate with his ambition and his natural powers.

More and more, agricultural science is bound to be recognized in units of credit for meeting college entrance requirements; certainly for meeting the requirements for admission to colleges of agriculture.

It must be evident, in short, that the agricultural departments in high schools herein proposed would throw open to boys from the farms not limited opportunities only, but opportunities for the most advanced agricultural education of which they might be capable and to which they might aspire. The fact that firm footing for their feet would be found at the outset through the immediate application of their science instruction in their home farm projects, would certainly be no detriment.

*Avoidance of Undue Delay.* — The establishment of agricultural departments in existing high schools could not be accomplished over night. Their success would depend upon picked men for teachers; and the selection of such men, or their training, would require time and attention. Some time would be required, also, for enabling the local advisory committee in consultation with the State authorities to outline the course of training best suited to meet the needs of the farm boys in any given locality. Certain special agricultural class-room facilities and equipment would require some time for preparation.

But the time necessary for the establishment of such departments would be comparatively brief. In one, two or three years it should be possible to have a reasonable number of such departments actively at work, and reaching most of the farm boys in this State who need this form of agricultural education.

*Conclusion.* — Chief stress in this chapter has been laid on the need of agricultural departments in existing high schools, and the service they might be expected to render. It is recognized that a new and untried method of instruction is proposed in this report. There have been certain approximations to both the separate agricultural school and the agricultural department



in a high school, as here defined and discussed; but nowhere has there been the definite and studied employment of the project and part-time method of training here contemplated for use in both the agricultural school and the agricultural department.

While, therefore, it is believed that the system of agricultural schools recommended in this report will prove to be an important contribution to the progress of education in this Commonwealth, it is believed, also, that the experimental character of the proposed system, particularly in matters relating to the agricultural department, should be distinctly recognized. To this end, accordingly, the appropriation for aiding such departments has been restricted to \$10,000 a year, — a sum sufficient to start a small number of such departments.

Intense interest in the proposed system exists among farmers, business men and educators throughout the State with whom it has been discussed. Under the supervision of the Board of Education, the work could be subjected to the closest scrutiny, and would be undertaken with corresponding care. Departments need not be established excepting where conditions for their successful development were believed to exist. Every possible assistance could be given those immediately responsible for putting into effect the method here proposed. If the results proved to be disappointing, the appropriation for departments should be discontinued. If the results here anticipated should be realized, the annual appropriation could be increased and the system further extended whenever such action might be considered necessary or desirable.

## VIII.

## POSSIBLE LOCATIONS FOR AGRICULTURAL SCHOOLS OR DEPARTMENTS.

Where should the schools and departments in a system of agricultural education for Massachusetts be established?

Previously in this report it has been stated that the establishment of five, or possibly six, separate agricultural schools might be warranted in Massachusetts. These might well be located at the most easily accessible points in each of six, readily separable, divisions of the State which furnish the home markets for Massachusetts agricultural products.

That there are six such divisions has been shown by Secretary Ellsworth in his forthcoming pamphlet, entitled "Massachusetts, her Agricultural Resources, Advantages and Opportunities," to which reference has been made in chapter II. His preliminary statement concerning these divisions is as follows: —

The home markets for Massachusetts farm products are confined principally to the 33 cities. These cities, all containing more than 13,000 people, represent almost two-thirds of the total population of the State. The inhabitants thereof are wholly dependent upon the farmer for sustenance. The cities of the State lie in six groups, the locations of which, as previously intimated, were determined largely by the existence of special industrial and commercial facilities.

1. *Desirable Locations for Agricultural Schools.* — If the six agricultural market divisions of the State were to be followed, schools might be located in the divisions described by Secretary Ellsworth, as below shown, and for reasons based on the investigations leading to this report below given.

(1) "*The most western group*," says Secretary Ellsworth, "is that comprising the cities of Pittsfield and North Adams, having a combined population of 45,000. These markets get all their dairy products and fruits and vegetables in season from producers of northern Berkshire."

*Pittsfield promises to be an excellent center*, and the time seems opportune for the establishment there of a separate

agricultural school. The formation of an agricultural fair association is under consideration by the Pittsfield Board of Trade, the local Grange and influential citizens. It has been suggested that the two projects might be worked out together. Some of the fair buildings, which otherwise would be unoccupied fully eleven months of the year, might be used for the school. Some of the school equipment and operations might contribute features of very great value for carrying out the educational purposes which the annual fairs would be intended to serve.

Pittsfield is a trade and transportation center for the towns of Lanesborough, Dalton, Lenox, Lee, Cheshire, Berkshire and Hinsdale. This group of towns, with Pittsfield, has a total population estimated at 50,000. The population is said to be increasing at a rapid rate, and to be far outstripping the agricultural development of that section of the State.

(2) "*The second group*," as described by Secretary Ellsworth, "comprises Northampton, Holyoke, Chicopee and Springfield. These cities lie in the lower Connecticut River valley. The last three named are in Hampden County, and are the most populous. The total population is 145,500. This market group draws heavily upon the productivity of the Connecticut valley for 30 miles of its length and from the hills on the east and on the west. The prosperous market gardeners close to the city limits attest to the excellent marketing advantages of this region."

*The Connecticut Valley now supplied.* — The Smith's Agricultural School and Northampton School of Industries now in operation at Northampton, and previously referred to in this report, is equipped for serving a large area in the Connecticut valley and on the neighboring hills. Students from 16 towns have been enrolled for work in this school, and with but few exceptions have been able to reside at home, — due to the excellence of Northampton as a transportation center.

(3) "*A third group*" is that made up, according to the analysis of Secretary Ellsworth, "of Worcester, Fitchburg and Marlborough. The former is by several thousands the largest city, and no mean percentage of its people are partially self-sustaining. The combined population is 163,500. The supply for these markets comes mostly from the southern and eastern parts of

Worcester County. Railroads enter the cities of this group from twelve different directions direct from the producing sections."

*Worcester* has been discussed separately in chapter IX. of this report as a most desirable center for an agricultural school. The resources of the city are rich, the agricultural production of its outlying sections is large, the population conditions are adequate, its transportation facilities are excellent, and the enterprise of its local agricultural and horticultural organizations is noteworthy. Few communities could offer conditions more promising for the successful establishment and maintenance of such a school than those which would be found in Worcester.

(4) "*Another group of cities,*" indicated by Secretary Ellsworth, "lie along the Merrimac River in northern Essex County. Lowell, Lawrence, Haverhill and Newburyport make up this group, and afford markets for that section of the State. The railroads are numerous, but do not enter into the movement of produce to these markets to any extent, most of it being drawn over the excellent macadam roads with which this section is admirably supplied. Gloucester, on Cape Ann, is a city of more than 25,000 people, which requires its portion of soil products. It is known best as a port and market for the fishing industry."

In Essex County several locations have been suggested, and it appears that public sentiment has been thoroughly aroused, by the Associated Boards of Trade and other organizations throughout the entire county, in favor of the early establishment of one agricultural school, and ultimately of at least two such schools.

A. *Danvers* has been suggested as a center for such a school. The section about Danvers may be described as pre-eminently devoted to market gardening. The district served might well include Lynn, Marblehead, Salem, Peabody, Beverly and Danvers itself. It is urged that day students living at home could attend school at this center from points as far north as Topsfield, Boxford, North Andover and even Haverhill, more cheaply than they could board, and have margins of time for testing daily at home the teachings of the school.

*B. The Merrimac valley*, it has been urged, would furnish a desirable center. Agriculture in the Merrimac valley section is rich and varied. It embraces general farming; fruit growing, including peaches and strawberries; and market gardening. The district served might well include Andover, North Andover. Boxford, Georgetown, Groveland, Lawrence, Methuen and Haverhill. Towns even as distant as Danvers, Topsfield, Newburyport and Salisbury would not, it is believed, be too far away for the attendance of day students.

*C. Topsfield* also has been suggested as a center, owing to the gift of a valuable farm in that town to the Essex Agricultural Society for educational purposes. This farm would offer admirable field facilities for purposes of instruction. The soil, especially in its diversified topographical contours, is typical of the farming land in the immediately surrounding section.

Against this point as a center for an agricultural school has been urged difficulty of access. Topsfield has no electric car service, and is crossed by but a single steam railway line. It might be that an enrollment of day students could not be assured sufficient to warrant its selection as a center.

*D. Beverly*, or some other spot on the North Shore, has been suggested as a center. It has been urged that an agricultural school might be established and equipped by subscriptions from wealthy residents, and that a district for its maintenance might well be made up of Beverly, Wenham, Hamilton, Essex, Manchester, Gloucester, Rockport and perhaps Ipswich. Such a school, it is urged, should provide instruction in general farming, and should also give particular attention to landscape gardening.

It is said that the North Shore country seats demand much skilled agricultural and horticultural work of all kinds, and that for meeting this demand the establishment and maintenance by the means above named of a somewhat specialized agricultural school would be warranted. There appears to be no little merit in this proposal, and the transportation conveniences would make a school in this locality accessible to a large district.

(5) "*The cities of the fifth group*," as described by Secretary Ellsworth, "are rather widely separated, but, as they are responsible for considerable agricultural activity of a particular sec-

tion, they may be taken as constituting a market for that section. These cities are Brockton in northwestern Plymouth, Taunton, Fall River and New Bedford in Bristol, and Woonsocket, Pawtucket, Central Falls and Providence in the State of Rhode Island. The combined population of these cities in 1905 was 500,000, which was nearly as great as that of Boston.

"This, however, cannot be taken as a true measure of the market for Massachusetts farmers of this section, since the Rhode Island markets get the larger portion of their produce from Rhode Island soil. The Massachusetts cities named above have a population nearly equal to the Rhode Island cities, and, with the exception, perhaps, of Fall River, get all their native food stuffs from Massachusetts farms. Transportation facilities are excellent, no less than thirty lines of railroads entering the cities of the group. Probably most of the garden truck is taken to market over the highways."

*The Faunce Demonstration Farm at Sandwich* might serve as a nucleus for a separate agricultural school for the Cape Cod section. The real estate of the Faunce Demonstration Farm, when bequeathed in 1909 for its present use, consisted of two houses, a barn, a greenhouse, about 8 acres of cleared land, with 50 acres of woodland adjoining and other woodland at a distance. With this real estate there also was received a fund of about \$20,000. The whole property was left as a memorial to Dr. Robert H. Faunce, who had died suddenly the year before, by his mother, in the hands of four of her personal friends as trustees, with wide discretionary powers, but with her wish well understood that the estate was to be used to encourage Cape Cod agriculture. Demonstration work in fruit and vegetable growing and in poultry farming has been energetically undertaken. This establishment was described very fully by the "Boston Herald" of Nov. 27, 1910, in an illustrated article, entitled "The Farm without Frills."

The conditions at Sandwich are so closely typical of the Cape as a whole, and transportation facilities are such, that Sandwich naturally suggests itself as a desirable center for an agricultural school. Agricultural production in that section has been sorely neglected, products which might well be grown at home being brought in for supplying local needs from the Boston markets.

The importance of Sandwich as a center is expected to be greatly enhanced by the completion of the new Cape Cod Canal.

The people of the community, particularly the school boys, have responded to the influence of the Faunce Demonstration Farm. The superintendent of the farm, as this report is being written, is instructing special classes of high school students who are desirous of the training this farm and its manager are prepared to provide.

(6) "*The sixth group*," discussion of which Secretary Ellsworth deferred until the last, because of its magnitude, is that which, he says, "for present purposes may be called the Boston market. Fifteen cities and about as many large towns may be included in this group. It has its center at Faneuil Hall, and radiates for 10 miles north, south and west. Within the circumference of this territory there dwell more than one-third of all the people in the Commonwealth. Well may Boston be termed 'the Hub;' it is truly the center of this enormous market."

*The Suburbs of Boston.* — It is well known that the greenhouse and market-garden interests in the vicinity of Boston have reached enormous development, and it has been suggested that a special school for training producers of market-garden and greenhouse crops might well be established in one of the suburbs of this city.

Such a school might materially differ in its course of study from the other agricultural schools, and form a very important part of a system of agricultural education for the State. Students who desired to specialize in these branches of agricultural production might, at the end of the first two or three years in any of the other agricultural schools or agricultural departments, possible locations for which are hereafter discussed, be transferred to this school for a one-year or two-years finishing course; that is to say, such a school might well be organized for providing a short course of highly specialized instruction for boys of sixteen or more years of age.

2. *Possible Locations for Agricultural Departments in Existing High Schools.* — Local conditions should be strong factors in determining whether or not the establishment of an agricultural department would be advisable at any given point.

There is throughout the State a very general excellence of

transportation facilities. When, for example, possible locations for the proposed Massachusetts College centers were being selected, it was found that 30 such centers could be so placed that 92 per cent. of the school population of the State would live within the range of a five-cent fare by steam or trolley from these centers, and that six per cent. more would live within the range of a ten-cent fare. Transportation facilities are likely to be found favorable at most points which might be suggested.

In choosing locations for agricultural departments in high schools, some account should undoubtedly be taken of the tendency of agriculture to develop more strongly with reference to local market demands than with reference to any local peculiarities of soil or traditional production, — a tendency which has been referred to by Secretary Ellsworth. Strong or distinctive home-market centers for agricultural products might well, as in the cases of the agricultural schools, furnish the most desirable locations for agricultural departments.

Following are centers — but not always market centers — which have been suggested as likely to be found desirable for the location of vocational agricultural departments in existing high schools: —

(1) *Great Barrington* might be found desirable as a center, so far as the farming interests and transportation facilities are concerned. Farmers conversant with Great Barrington conditions have estimated that an annual enrollment of 20 farm boys could be assured, if such a department should be established, with an ultimate enrollment of probably not fewer than 50. The surrounding towns have no manufacturing, but contain many estates of summer residents and many typical western Massachusetts farms. These towns now send a number of tuition students to the Great Barrington high school.

An agricultural department at this center might be found very serviceable, therefore, to a considerable surrounding territory, as well as to Great Barrington itself. Instances are given of students, living at home, but attending school in Pittsfield from points as far south as Stockbridge. The distance from Stockbridge to Pittsfield is of course much greater than the distance from Stockbridge to Great Barrington. It has been



urged that, with an agricultural school at Pittsfield and an agricultural department at Great Barrington, the Berkshire section of the State would be well supplied with means for the agricultural education of boys fourteen or more years of age.

(2) *West Springfield* has been suggested as a favorable spot for a strong agricultural department course in market gardening as well as in general agriculture. There would be abundance of illustrative work going on within easy reach, and the transportation facilities for day students would be all that could be desired.

(3) *Palmer* might be another desirable center. This is a town of about 8,000 inhabitants, and is made up of several villages. It is an important transportation center, being intersected by several steam railway lines and served by numerous electric car lines radiating from Palmer village as a center. A large farming area might thus be readily accommodated.

Across the river from the village is a very large State institution, with extensive farms and varied farming operations. Much help is there employed, and practical work might there be had by boys from village homes who desired to be trained for farm life and work. The superintendent of this institution has expressed great interest in the possible establishment of an agricultural department in the Palmer high school, and might be relied upon to do everything possible for enhancing the value of its practical instruction.

Palmer has three outlying manufacturing villages, in each of which the mill property includes farming land. The agents of the mills have expressed considerable interest in the possibility of an agricultural department in the Palmer high school. One of them would contribute forestry demonstration work; the others would render any assistance which might be found practicable.

(4) *Sandwich*, if the Faunce Demonstration Farm were not developed into a separate agricultural school, would be admirably suited for an agricultural department. The farm would provide excellent means for demonstration and practice work at the school, since the farm is but a few steps from the high school building.

(5) *Kingston* would be another favorable point. Though Kingston itself might not assure an enrollment sufficient to warrant the establishment of such a department at the local high school, the transportation facilities are such that a department located at Kingston might serve a considerable territory, including the towns of Plymouth, Carver, Plympton, Halifax, Silver Lake and Duxbury.

Kingston no doubt has been suggested owing to the keen local interest in agricultural improvement which has already been aroused. There is a model farm operated by a private owner in the vicinity of the high school, which would afford proper demonstration facilities.

(6) *Byfield* has been suggested as a good center for an agricultural department. Dummer Academy is located in this town, and owns a farm fairly typical of the land in this section. It has been suggested that the town authorities, acting with the officers of Dummer Academy, might utilize the academy farm and a portion of the academy buildings for the establishment of such a department. Byfield has electric car service as well as steam, and day students from Newbury, Georgetown, Rowley and Ipswich might there be accommodated.

(7) *Walpole* is another location which has been suggested for a department. Three very interesting farms, one a purely investment proposition, one where clean milk is produced under exceptionally good conditions, and another where an undertaking is under way for developing a farm which shall grow all its own grain as well as roughage, would afford very unusual illustrative facilities, not too far distant. Walpole has both steam and electric railway service, and a department in the Walpole high school might well serve a considerable surrounding section.

(8) *Petersham* is another center which has been suggested. A central school building, costing \$75,000, has been given to the town. In this are accommodated all of the grades of the local schools, including the high school. In order that agricultural instruction might be given, a small greenhouse was erected and a small tract of land for out-door work was provided. The school has already taken for its name the "Petersham Agricultural High School."

3. *Procedure for choosing Locations for Vocational Agricultural Schools.* — Other desirable locations for both agricultural schools and agricultural departments will undoubtedly be brought to view. The lists above given simply make record of those possible centers which have most readily singled themselves out, owing to certain obvious, and, as a rule, peculiarly advantageous, local conditions.

No serious work could be expected of any community in the direction of a definite canvass of its specific requirements and possibilities, in the absence of legislation fixing the general policy of the State as to the desirability of establishing a system of agricultural schools throughout the Commonwealth. Such legislation might be expected to follow the submission of this report. For those conducting the preliminary investigations leading to this report to have urged such canvasses would have been to enter the field of propaganda, — a field construed to be foreign to the present purpose.

In the event of favorable action by the Legislature on the establishment of the system of vocational agricultural schools recommended in this report, the procedure for choosing a location for a school or a department would probably be somewhat as follows: —

(1) A local committee interested in the subject might petition the Board of Education for a conference. Such a committee might be the regular school committee, acting through the superintendent of schools; or it might be a group of interested citizens, such as members of a grange or of a board of trade.

(2) The conference might be expected to result (*a*) in a careful canvass of the local farming conditions and the local market demands for agricultural products; and (*b*) in the tentative formulation of a course of training which appeared to be suited to the farming needs of the particular locality.

(3) It might then be advisable that a careful census of the local school population should be made, for the purpose of estimating the number of boys just approaching the fourteenth birthday or just past it, who would enroll in a school which should provide such a course of training as that tentatively formulated.

(4) With the list of prospective students in hand, the next

step would probably be to secure assurance from the parents of those students of willingness to co-operate heartily with the school in carrying out the programme of part-time work, which is believed to be essential to the proper conduct of the proposed type of agricultural education.

(5) Assured of the necessary home farm co-operation, and an adequate enrollment, the next natural steps would be: (a) consideration of suitable land, buildings and equipment, and their probable cost; (b) the availability of suitable teachers, and their probable cost; and (c) the probable cost of maintenance, other than the expense for officers of instruction and administration.

If a department in a high school were contemplated, the above problems of (a) suitable quarters and equipment, (b) instruction and (c) miscellaneous necessary maintenance cost would be much simplified. The attitude of the local high school officers and teachers would previously have been ascertained when the proposed course of training was formulated.

(6) With all the needs definitely known, ways and means of providing funds and election or appointment of official local authorities for the establishment of the school, or department, would be the next natural objects of attention.

A. Action might be speedy and the problems simple, if the town or city were to provide the school for itself.

B. Action might be slow and the problems more difficult, if the school were to be provided by a district of several cities or towns, or cities and towns.

C. All would most readily be accomplished, if a private donor, or group of donors, should provide the necessary plant. The Oliver Smith fund of \$310,000 was a great aid in establishing the agricultural school at Northampton; as was the Faunce bequest in establishing the Faunce Demonstration Farm at Sandwich, and the resultant agricultural instruction during part of the year now given high school students in that town.

In addition to the suggested North Shore school which it is thought might be built and equipped by private donors, it is understood that another project, somewhat of the Sandwich type, is likely to be provided for at an early date by private gift.

Few benefactions are likely to be more permanently useful than modest gifts and bequests of the Faunce type, which would provide desirable school equipment at many points for the more practical elements of the agricultural education of the boys and girls who expect to live their lives and do their work on Massachusetts farms. If large discretionary powers were lodged with the trustees, local school authorities or the Board of Education, every interest of future progress would be served, as well as the obvious present need, by such benefactions.

(7) Finally, it may be said that, since the schools proposed would receive State aid for their maintenance, subject to approval by the Board of Education, the Commissioner of Education and those representing him might be expected to render, at all stages of the proceedings, every possible assistance to any local community which desired to establish the types of agricultural education proposed by this report.

## IX.

RECOMMENDATION WITH REGARD TO AGRICULTURAL  
EDUCATION FOR WORCESTER.

In accordance with the provisions of chapter 108 of the Resolves of 1910, the investigation leading to this report considered the "practicability and desirability of establishing a farm school in the city of Worcester in which instruction may be given, free, in the raising of fruits, vegetables, flowers, grains, plants and trees, and in the care of domestic animals, and in which similar instruction suitable to their years may be given to children."

It will be remembered that the 1905 Massachusetts State census showed that the agricultural produce of Worcester County was reported as \$14,279,000, and of the city of Worcester alone as \$1,491,000. While the second city in population, Worcester ranked first of the cities and towns in the value of its agricultural products.

The farm products of Worcester are widely varied and are readily marketed. The long slopes which characterize the outlying land are found to be remarkably favorable for fruit, particularly for apple growing; dairy and poultry products hold a strong position; market gardening is highly promising.

Worcester has two important and very active organizations in its agricultural and horticultural societies. The city has made a most commendable beginning in trade school work, and the rounding out of its system of vocational training of secondary grade might well take the form of a strong separate agricultural school. The resources of the city and the importance of its farming interests would fully warrant the establishment and maintenance of such a school.

It is believed that the provisions proposed in this report for meeting the needs of the State at large for a system of vocational agricultural education of secondary grade would meet the requirements of Worcester, and that, therefore, special legislation for this particular city should not be herein proposed.

## X.

AGRICULTURE AS A PHASE OF LIBERAL EDUCATION IN  
THE HIGH SCHOOLS OF MASSACHUSETTS.

It is appropriate that something should be said in this report with respect to the study of agriculture as a part of the program of the so-called liberal education, to which our school system has been for the most part devoted.

There is an active movement in secondary education looking to more effective organization of subject matter and method for the purposes of liberal or cultural education. In this movement it is natural that many persons should look upon agriculture as a promising and attractive field of secondary school study, especially for rural high schools. For this purpose it presents several aspects.

1. *Agricultural Lands and People.* — In the economic life of all the centuries, agriculture has played an important part. The control of the fertile lands in the great valleys and plains has made and unmade nations. Political organization has in all times been greatly affected by the ownership of land and by the kind of agriculture practiced.

In our own century territorial division of labor plays an important part, with the result that one kind of farm industry monopolizes the lower half of the Mississippi valley; another, the warm valleys of California; another, eastern Asia and still another, the plains of Canada.

To the student of the play of social forces, the distribution of population along agricultural lines is a fascinating theme. One can read with intense interest of the effects of occupations on the social life of the peoples of the prairies and the tropics, of the inhabitants of the great steppes of Russia and of the small cultivators of France and Italy.

2. *Agricultural Science and Invention.* — Especially interesting as themes for study are the transitions which the nineteenth and twentieth centuries have brought into agriculture. The inventions of science and the evolution of machinery, substituting animal strength and natural forces for human brawn

and sinew, have increased agricultural production, have extended human prosperity, and have made the farm a field wherein scientific knowledge finds abundant application.

Many a scientist has, within the last half-century, enriched humanity by his contributions to effective farm production. The work of our own national government in agricultural research and in spreading a knowledge of approved methods constitutes a most cheering sign of governmental activity.

It is evident that, along these and allied lines, it is possible to build up a field of study which as a part of liberal education would easily rank with certain subjects now taught with great effort in the public high schools of rural communities.

3. *Science Laboratory Illustrations from Agriculture.* — Agriculture must increasingly be considered as a field of applied science. Physical and commercial geography, botany, zoölogy, bacteriology, physiology, chemistry, economics, have numerous important applications in agriculture, and many of these applications are so concrete and simple as to constitute excellent laboratory illustrations.

It is not strange that seekers for more satisfactory methods of teaching science should turn preferably to agriculture for suggestion and material. It has become more and more evident that science cannot be very effectively taught to secondary students strictly in its "pure" form. Children of the adolescent stage of development apparently respond more satisfactorily to that science teaching which begins with applications and concrete cases, and then merges into generalizations, principles and laws. We know that this is the historic order in the evolution of scientific knowledge, and it is not improbable that in the main the pedagogic order must follow the historic order.

In the high school attempts are being made in many places to organize general science for first or second year instruction. This course consists in some instances merely of topics selected from various sciences; in others it is based on subjects, like physical geography, which involve principles and applications from many sciences.

A more satisfactory procedure, in the view of many educators, will be to take the subject of agriculture, abounding in direct



and practical applications from many scientific fields, and to organize a course of instruction in which the pupil will advance from concrete experience to an appreciation of underlying scientific principles, and also at every step become cognizant of the real significance of the subject in promoting personal and social well-being. An able presentation of secondary school science of this kind recently appeared from the United States Department of Agriculture (Experiment Station Record, September, 1910).

The unsatisfactory results not infrequently obtained from the study of abstract mathematics and formalized physics seem to justify the belief that agriculture can be used to advantage as a means of approach to science, in a scheme for liberal education in secondary schools.

4. *Agriculture and Wholesome Living.* — The conception of modern liberal education involves to an increasing extent a study of social conditions and of the factors that make for wholesome personal and community living.

We are in the midst of a reaction against the movement to the city, and students of social economy are becoming more and more convinced that the development of sound citizenship, as well as of sound physique, as a nation, is dependent on a large agricultural population.

The study of agriculture as a field of human activity involves constant reference to the social characteristics of rural communities, and to the means for the better development of desirable pursuits. One important question relates to the bearing on physical health of rural life and its occupations.

5. *Agriculture and the Educational Values of Concrete Experience.* — Modern education is developing a wider and better psychological outlook. Education in the past has been identified with instruction given in schools; and school training has, owing to the force of circumstances, been an education by means of books and writing, modified in recent years by more or less laboratory experience. Modern pedagogy, on the other hand, maintains that academic teaching can be effective only as it builds on a basis of concrete experience, obtained by a thorough contact with the realities of life.

Before the development of modern cities and the resulting industrial conditions, a large majority of growing boys and girls had abundant opportunity to share in productive occupations, to participate in the natural sports of childhood and to acquire industrial experience, simply through contact with their environment. It seems to be biologically true that this basal experience is necessary, as antecedent to the form of education we call academic.

6. *Some Agriculture almost Indispensable to Sound Education.* — Manual training and laboratory work in science have been undertaken partly as a means to realize this experience. Both are necessarily made artificial by the cramped conditions under which they must be conducted. Agriculture offers a peculiar opportunity for a more extended and satisfying field, wherein this basal experience may be acquired.

It must be noted that this argument has no reference to vocational training. In fact, it might be urged from the standpoint of liberal education that persons destined for the professions and learned callings stand in greatest need in their earlier years of broad experience with the soil, with domestic animals and with the conditions of production in nature. In many communities a certain number of hours per week devoted to agricultural production, whether in school gardening or in the more complex farming activities, may easily be regarded as an almost indispensable part of a liberal education, when one takes into account the conditions involved in modern life.

7. *Agricultural Text-books for Reading Courses.* — The above considerations serve to define to some extent the part which agriculture may play in a system of liberal education.

In hundreds of high schools of the United States descriptive courses in agriculture are now offered. They are based on many excellent text-books which have appeared, and the instruction often consists mainly in guiding the reading of the pupils. If the teacher himself be interested in the larger economic and scientific aspects of modern agriculture, as well as in its historic evolution, he can make the subject one of intense interest, even without laboratory demonstration or field experience.

Much of our high school education must still be obtained from text-books, and the work described above offers surely as attrac-

tive a subject of study as ancient history, text-book science as sometimes still taught, or mathematics.

8. *Agricultural Manuals for Science Laboratories.* — Many schools are ambitious to go farther, and in a somewhat different direction. They prefer not to treat agriculture in its broad geographical or historic aspects, but to use it as a means of introducing some notions of science.

Here, again, many excellent books and manuals are available, and the opportunities for laboratory illustration may be easily supplied. In fact, a most valuable line of experimentation may be followed with the scantiest of materials and equipment, such as a farmer might often possess. The skilled and enthusiastic teacher is able in this way to make agriculture not only a means of general culture, but a most valuable means of approach to the more abstract sciences.

9. *Agriculture and Enlarged Educational Opportunity.* — A few schools have gone farther still. They have, by individual or joint effort, carried out certain productive enterprises on land in their possession. They have engaged in gardening, and in some instances have performed experiments with certain forms of live stock. The work has been made the center of correlation for manual training, commercial arithmetic and science. The social significance of co-operative effort has been revealed, and a new spirit with reference to country life evoked.

This work, while not confessedly industrial, does serve a valuable vocational purpose, in that it gives something of the ideal and outlook which ultimately constitute a large element in vocational success. But the contributions to liberal education of the schools in which this form of work has been developed are unmistakable. The widening horizon of the pupil, his greater sympathy with the prosaic occupations of life, and his growing appreciation of the possibilities of art and science applied in every-day callings, tend at every step to render him a person of power and to add to his possibilities of growth.

There are educators who believe that such a reorganization of the program of liberal education, as here described, whereby special studies and practices shall lead into larger local, industrial and social activities, constitutes the greatest opportunity

of the future for our schools. Agriculture, as the occupation of half the American population and an important portion of the people of Massachusetts, is an especially inviting field.

10. *Motives of Liberal Education now Dominant.* — The above types of agricultural education are all controlled by the motives dominant in liberal education. It is not intended that they shall be determined by the conditions and necessities of vocational education. It is desirable that, when the ends of liberal education are being sought, only incidental consideration should be given to the industrial significance of the means employed. Nevertheless, it must be apparent that all the above methods of instruction, even when based solely on the textbook, have some influence on vocational skill.

Success in one's calling depends on something more than skill, and capacity to apply science and art to productive ends; it involves social outlook, wider sympathies and the ideals which actuate life. While the above forms of education cannot be called vocational, they nevertheless should contribute ideals and appreciation, — important elements in the success of those youths who ultimately turn to agriculture as an occupation.

The study of agriculture above described should, so far as State encouragement and support are concerned, stand in the same position as the study of foreign languages, history, mathematics, science and all subjects traditionally associated with liberal education. It should not be aided by the State, as though it were part of a system of vocational education.

## XI.

AGRICULTURE AS A PHASE OF LIBERAL EDUCATION IN  
THE ELEMENTARY SCHOOLS OF MASSACHUSETTS.<sup>1</sup>

## PART I.

*The Present Status.*

While there is as yet no systematic or general recognition of agriculture in the program of the elementary public schools of the State, enough has been done in teaching this subject to show that, within the limits of the capacity of the children, such instruction is entirely practicable, and that the results justify an extension of this kind of work. Even in one-room rural schools, as at Hinsdale and Peru, teachers guided and directed by capable and skillful supervision have overcome apparent limitations, and have given boys ranging from twelve to fourteen years of age a knowledge of the best methods and actual practice in the raising of certain staple vegetables. An example of one of the projects that has been found most feasible and satisfactory is given as Part II. of this chapter.

*Some Definite Results.*

The instruction in agriculture in the elementary schools has led to a general use of the leaflets and bulletins issued by the United States Department of Agriculture, by the State Board of Agriculture and by the Massachusetts Agricultural College. Not only do the boys in connection with their school projects read with interest and appreciation these bulletins, but the school becomes a medium through which such information on the best methods of culture is brought into the community itself. Farmers have thus become acquainted with approved methods of cultivating certain crops, and use such information in their own practice. One community, for example, has learned the value of the formalin treatment for scab in potatoes, the best and cheapest combinations for ferti-

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<sup>1</sup> Prepared by Deputy Commissioner Orr.

lizers, and the use of the Bordeaux mixture for the prevention of potato blight.

Besides these economic results, an increased interest in and appreciation of the school have been developed among the people. It has been possible to introduce in such rural schools other practical projects in dressmaking and cooking, in which undertakings the girls of the upper grammar grades have shown efficiency and ability. In these and other ways helpful relations have been established between the school, and the arts of the farm and home. In the schools where such exercises have been introduced with success, it has been found that the boys acquire added interest in school work along all lines. The direct use made of penmanship, arithmetic, composition, bookkeeping, drawing and manual training has resulted in an improved quality of work in those branches.

### *The Value of Elementary Agriculture.*

Instruction in elementary agriculture in the upper grammar grades has a direct value in itself, because it contributes to the prosperity of the farming community by aiding in the introduction of improved methods.

Teachers, by means of such courses, have been able to increase the interest among their pupils in the work and the activities of the farm. One may hope that, through such influences, boys may be induced to remain in the country districts; but sufficient data are not as yet at hand to demonstrate that elementary agriculture in the schools accomplishes such a result. It will be agreed that it is highly desirable to make use of all possible means to check the present excessive tendency toward the city.

The work in agriculture in a rural school opens up a way for helpful co-operation between the school on the one hand, and the home and the farm on the other. One of the best opportunities for applying the teaching of the school is when a boy secures a plot of land in the home garden or farm, and cultivates it according to the best methods. Such an undertaking should be carried out as a business enterprise, an account kept of receipts and expenditures, and a statement made at the close of the season which shall show the balance of profit or loss.

Courses in elementary agriculture furnish a preparation for the direct vocational work in schools of higher grade. Pupils who have carried out one or more garden enterprises have acquired some knowledge of elementary methods in farming, and some information regarding the vegetable raised, soil, weather conditions, effects of fertilizer, heat, light and moisture. They thus come to the more advanced work with a large body of experience, which the secondary school teacher may utilize to advantage.

*Agencies to Promote Elementary Agriculture.*

1. *Nature Study.* — In the early years of the school life of the pupil he is led to observe plant and animal life, and gains a considerable body of experience relating to the phenomena of weather, soils and local natural history. When elementary instruction in agriculture has been thoroughly established and systematized, it will be possible to direct and shape nature study so as to give it more definite aims and purposes than at present, and at the same time to retain the quality in that study which makes for appreciation and enjoyment of nature.

2. *School Gardens.* — The school garden is winning a place in the public schools of the State. Through the undertakings involved in gardening, the pupil gains experience, knowledge and skill in certain processes connected with farming. It is desirable that the school-garden work should be so directed as to give the pupil a definite task, in accomplishing which he must overcome real difficulties in the soil, learn to protect his crop against insect pests and against untoward weather conditions, and finally secure a tangible and measurable product. The school garden may thus closely approximate actual farming conditions. The normal schools of the State, particularly at North Adams and Hyannis, are giving serious attention to school gardening of this character. Use is being made in this activity of the motives that underlie social and collective action, while opportunity is afforded for wholesome rivalry and for desire for individual excellence.

3. *Potato and Corn Clubs.* — Under the auspices of the Massachusetts Agricultural College, a large number of boys in different parts of the State have been organized into societies for

raising certain staples in accordance with the best scientific methods. Under the leadership and direction of members of the faculty of the Massachusetts Agricultural College, a widespread interest in agriculture has been developed. Seed of approved quality is distributed to the members of these clubs, and full directions are given regarding culture and harvesting. Exhibits are held at the close of the season under the auspices of local granges or other organizations. Prizes are awarded for the best results. By these means the boys are stimulated, by emulation and friendly rivalry, to put both skill and industry into their individual undertakings. Some notable results have been secured through this movement, in the culture of both corn and potatoes.

4. *Summer Courses.* — The Massachusetts Agricultural College, by its summer courses for the training of teachers, by its conferences on rural conditions and by the travelling school of instruction, in which use is made of the train and trolley service of the State, is doing valuable work in stimulating an interest in farming and in spreading a knowledge of scientific method among teachers.

5. *The Work of the Board of Education.* — An agent of the Board of Education is giving a large part of his time and attention to the encouragement and direction of teachers and superintendents in the establishment and conduct of elementary work in agriculture. Under his direction a manual is being prepared which gives directions for carrying out a number of projects in agriculture. This publication furnishes detailed and specific instructions, whereby superintendents and teachers will be enabled to conduct classes in the different projects intelligently and effectively. In Part II. of this chapter a brief description of this manual, and an example of one of the projects are given.

### *Provisions for Extension and Development.*

In order that elementary agriculture in the grammar grades may be carried on with success, it is necessary that teachers should receive some training for the work. Such preparation may be given in several ways. The manual to which reference has already been made should enable an alert, progressive teacher,



when guided by her superintendent, to carry out with success certain undertakings in agriculture. The normal schools and the summer school at the Massachusetts Agricultural College are already rendering service by training their students for the work which falls to a teacher in a rural school, and are in some instances giving direct instruction in the processes of farming. It is important that superintendents who are in charge of schools in the country should inform themselves on elementary agriculture. Guidance and help from the superintendent are important factors in promoting the efficiency of a teacher in this field of instruction. It has been suggested that the Board of Education might well consider the question of securing a grant of money from which payments might be made to the smaller towns in order that the salaries of teachers who are making a success of the work in agriculture and in other practical branches might be increased. Such an incentive would encourage capable young women to enter the service of the rural schools, and to continue in this field of work for a time. It has been shown by experience that such teachers with a capacity for leadership, not only improve the quality of the school work, but also exercise a most helpful influence upon the community life, this influence being shown in the betterment of economic and social conditions.

## PART II.

### *Introduction.*

An agent of the Board of Education is preparing a manual for the instruction of teachers in the work of elementary agriculture. This bulletin is entitled "Some Agricultural Projects for Elementary Schools." The nature of the work is best shown by a brief description of each of the four parts, and by an example of one of the projects.

### *The Divisions of the Manual.*

*Part I. The Projects.* — This portion of the bulletin gives full and specific directions, whereby the children in the elementary schools, under the direction of teachers, may successfully raise such vegetables as potatoes, tomatoes, parsnips, lettuce,

alfalfa and radishes. In all, fourteen such undertakings are described.

*Part II. Suggestions for Garden Work.* — One finds here full directions as to how the work in gardening can be conducted to best advantage in an elementary school. The place of such work in the program is described, and a statement is added of the necessary equipment in land, tools, measures, seeds, fertilizers and reference and study books.

*Part III. Laboratory Work.* — This section contains detailed descriptions of twelve experiments relating to plants and soil.

*Part IV. Collateral Work.* — Instruction is given as to the ways in which pupils may be given practice in the writing of letters, in the keeping of diaries, in applying arithmetic, drawing and manual training and in the use of business forms in connection with the work of elementary agriculture. Suggestions are made on the use of material, afforded by elementary agriculture, as a basis for composition exercises. Possible correlation with the work in geography and in science is also indicated.

The manual on agricultural projects should do much in promoting the practical work in the upper grammar grades, because it puts at the command of teachers and superintendents a body of exercises that have been carefully prepared for use under usual school conditions.

### *First Project. — Potato.*

A brief summary of this project is given as an illustration of the method of treatment used in the manual.

*Preparation of the Soil.* — Advice is given on the kinds of soil adapted for potato culture. The proper time for plowing and the methods to be used in preparing the soil, by harrowing and furrowing, are also discussed. Several kinds of fertilizers are described. The manual points out ways whereby fertilizers may be obtained at smallest expense and applied in the field to best advantage.

*Seed, Selection and Preparation.* — The standard varieties of seed and the qualities desired in potatoes used for planting

are described. Other topics are: the use of the formalin solution to prevent scab, the need of care in sprouting, and the best ways of planting.

*Cultivation.* — Under this head instruction is given on hoeing and hilling. The use of Paris green to destroy the potato bug and spraying with the Bordeaux mixture to prevent blight are treated.

*Harvesting.* — The manual tells the learner when and how a crop is harvested. A plan for estimating the number of potatoes yielded by the field and a form for a report on the number of potatoes in each hill are given. A list of books dealing with potato culture is presented.

## APPENDIX.

**The Commonwealth of Massachusetts**

In the Year One Thousand Nine Hundred and Eleven.

AN ACT TO CODIFY AND AMEND LEGISLATION RELATING TO STATE-AIDED  
VOCATIONAL EDUCATION.

*Be it enacted, etc., as follows:*

CONSTRUCTION.

1 SECTION 1. The following words and phrases as hereinafter used  
2 in this act shall, unless a different meaning is plainly required by  
3 the context, have the following meanings:—

4 1. "Vocational education" shall mean any education whose con-  
5 trolling purpose is to fit for profitable employment.

6 2. "Industrial education" shall mean that form of vocational edu-  
7 cation which fits for the trades, crafts and manufacturing pursuits,  
8 including the occupations of girls and women carried on in work-  
9 shops.

10 3. "Agricultural education" shall mean that form of vocational  
11 education which fits for the occupations connected with the tillage  
12 of the soil, the care of domestic animals, forestry and other wage-  
13 earning or productive work on the farm.

14 4. "Household arts" education shall mean that form of voca-  
15 tional education which fits for occupations connected with the  
16 household.

17 5. "Independent industrial, agricultural or household arts school"  
18 shall mean an organization of courses, pupils and teachers, under a  
19 distinctive management approved by the board of education, de-  
20 signed to give either industrial, agricultural or household arts edu-  
21 cation as herein defined.

22 6. "Evening class" in an industrial, agricultural or household arts  
23 school shall mean a class giving such training as can be taken by  
24 persons already employed during the working day, and which, in  
25 order to be called vocational, must in its instruction deal with the  
26 subject matter of the day employment, and be so carried on as  
27 to relate to the day employment.

28 7. "Part-time (or continuation) class" in an industrial, agricul-  
29 tural or household arts school shall mean a vocational class for per-  
30 sons giving a portion of their working time to profitable employment,  
31 and receiving in the part-time school, instruction complementary to  
32 the practical work which is being carried on in such employment.

33 To give "a portion of their working time" such persons must give  
34 a portion of each day, week or longer period to such part-time class  
35 during the period in which it is in session.

36 8. "Independent agricultural school" shall mean either an organi-  
37 zation of courses, pupils and teachers, under a distinctive manage-  
38 ment designed to give agricultural education, as hereinafter pro-  
39 vided for, or a separate agricultural department, offering in a high  
40 school, as elective work, training in the principles and practice of  
41 agriculture of an extent and character approved by the board of  
42 education as vocational.

43 9. "Independent household arts school" shall mean a vocational  
44 school designed to develop on a vocational basis the capacity for  
45 household work, such as the callings of cookery, household service  
46 and other occupations in the household.

#### STATE ADMINISTRATION AND SUPERVISION.

1 SECTION 2. The board of education shall be charged with the duty  
2 and given all necessary power to investigate and to aid in the intro-  
3 duction of industrial, agricultural and household arts education; to  
4 initiate and superintend the establishment and maintenance of  
5 schools for the aforesaid forms of education; and to supervise and  
6 approve such schools, as hereinafter provided. The board of edu-  
7 cation shall make a report annually to the legislature, describing  
8 the condition and progress of industrial, agricultural and household  
9 arts education during the year, and making such recommendations  
10 as such board may deem advisable.

#### TYPES OF SCHOOLS.

1 SECTION 3. In order that instruction in the principles and the  
2 practice of the arts may go on together, independent industrial,  
3 agricultural and household arts schools may offer instruction in day,  
4 part-time and evening classes. Attendance upon such day or part-  
5 time classes shall be restricted to those over fourteen and under  
6 twenty-five years of age; and upon such evening classes, to those  
7 over seventeen years of age.

#### LOCAL ADMINISTRATION AND CONTROL.

1 SECTION 4. Any city or town may, through its school committee  
2 or through a board of trustees elected by the city or town to serve  
3 for a period of not to exceed five years, to be known as the local  
4 board of trustees for vocational education, establish and maintain  
5 independent industrial, agricultural and household arts schools.

1 SECTION 5. 1. Districts composed of cities or towns, or cities and  
2 towns, may, through a board of trustees to be known as the district

3 board of trustees for vocational education, establish and maintain  
4 independent industrial, agricultural or household arts schools. Such  
5 district board of trustees may consist of the chairman and two other  
6 members of the school committee of each of such cities and towns,  
7 to be appointed for the purpose by each of the respective school com-  
8 mittees thereof; or any such city or town may elect three resi-  
9 dents thereof to serve as its representatives on such district board  
10 of trustees.

11 2. Such a district board of trustees for vocational education may  
12 adopt for a period of one year or more a plan of organization,  
13 administration and support for such schools. Such a plan, if ap-  
14 proved by the board of education, shall constitute a binding contract  
15 between the cities or towns which are, through the action of their  
16 respective representatives on such a district board of trustees, made  
17 parties thereto, and shall not be altered or annulled except by vote  
18 of two-thirds of the entire district board of trustees and the consent  
19 of the board of education to such alteration or annulment.

1 SECTION 6. Local and district boards of trustees for vocational  
2 education, administering approved industrial, agricultural or house-  
3 hold arts schools, shall, under a scheme to be approved by the board  
4 of education, appoint an advisory committee composed of members  
5 representing local trades, industries and occupations. It shall be the  
6 duty of such advisory committees to counsel with and advise such  
7 local or district boards of trustees and other school officials having  
8 the management and supervision of such schools.

#### NON-RESIDENT PUPILS.

1 SECTION 7. 1. Any resident of any city or town in Massachusetts  
2 which does not maintain an approved independent industrial, agri-  
3 cultural or household arts school, offering the type of training which  
4 he desires, may make application for admission to such a school  
5 maintained by another city or town. The board of education, whose  
6 decision shall be final, may approve or disapprove such application.  
7 In making such a decision the board of education shall take into  
8 consideration: the opportunities for free vocational training in the  
9 community in which the applicant resides; the financial status of  
10 the community; the age, sex, preparation, aptitude and previous  
11 record of the applicant; and all other relevant circumstances.

12 2. The city or town in which the child resides, whose application  
13 for admission to an approved independent industrial, agricultural  
14 or household arts school maintained by another city or town has been  
15 approved, shall pay such tuition fee as may be fixed by the board  
16 of education; and the commonwealth shall reimburse such a city or  
17 town, as provided for in this act. If any city or town neglects or

18 refuses to pay for such tuition, it shall be liable therefor in an action  
19 of contract to the city or town, or cities and towns, maintaining the  
20 school which the pupil, with the approval of the said board,  
21 attended.

#### REIMBURSEMENT.

1 SECTION 8. Independent industrial, agricultural and household  
2 arts schools shall, as long as they are approved by the board of  
3 education as to organization, control, location, equipment, courses  
4 of study, qualifications of teachers, methods of instruction, conditions  
5 of admission, employment of pupils and expenditures of money,  
6 constitute approved local or district independent vocational schools.  
7 Cities and towns maintaining such approved local or district inde-  
8 pendent vocational schools shall receive reimbursement as provided  
9 for in sections nine and ten of this act.

1 SECTION 9. 1. The commonwealth, in order to aid in the mainte-  
2 nance of approved local or district independent industrial and house-  
3 hold arts schools and of independent agricultural schools consisting  
4 of other than agricultural departments in high schools, shall, as pro-  
5 vided for in this act, pay annually from the treasury to cities and  
6 towns maintaining such schools an amount equal to one-half the sum  
7 to be known as the net maintenance sum. Such net maintenance sum  
8 shall consist of the total sum raised by local taxation and expended  
9 for the maintenance of such a school, less the amount, for the same  
10 period, of tuition claims, paid or unpaid, and receipts from the work  
11 of pupils or the sale of products.

12 2. Cities and towns maintaining approved local or district inde-  
13 pendent agricultural schools consisting only of agricultural depart-  
14 ments in high schools shall be reimbursed by the commonwealth, as  
15 provided for in this act, only to the extent of two-thirds of the  
16 salary paid to the instructors in such agricultural departments: *pro-*  
17 *vided*, that the total amount of money expended by the common-  
18 wealth in the reimbursement of such cities and towns for the salaries  
19 of such instructors for any given year shall not exceed ten thousand  
20 dollars.

21 3. Cities and towns that have paid claims for tuition in approved  
22 local or district independent vocational schools shall be reimbursed  
23 by the commonwealth, as provided for in this act, to the extent of  
24 one-half the sum expended by such cities and towns in payment of  
25 such claims.

1 SECTION 10. On or before the first Wednesday of January of each  
2 year the board of education shall present to the legislature a state-  
3 ment of the amount expended previous to the preceding first day  
4 of December by cities and towns in the maintenance of approved

5 local or district independent vocational schools, or in payment of  
6 claims for tuition in such schools, for which such cities and towns  
7 should receive reimbursement, as provided for in this act. On the  
8 basis of such a statement the legislature may make an appropriation  
9 for the reimbursement of such cities and towns up to such first day  
10 of December.

ACTS AND PARTS OF ACTS REPEALED.

1 SECTION 11. 1. Sections one to six inclusive of chapter five hun-  
2 dred and five of the acts of nineteen hundred and six, sections one to  
3 four inclusive of chapter five hundred and seventy-two of the acts of  
4 nineteen hundred and eight, chapter five hundred and forty of the  
5 acts of nineteen hundred and nine, and all acts and parts of acts  
6 inconsistent herewith, are hereby repealed.

7 2. Schools, heretofore established under the acts and parts of acts  
8 repealed by this section, and approved by the board of education,  
9 shall continue in operation subject to the provisions of this act for  
10 such schools.



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# AN ABSTRACT

OF THE

SCHOOL RETURNS MADE BY THE SCHOOL COMMITTEES  
OF THE SEVERAL TOWNS AND CITIES IN  
THE COMMONWEALTH

FOR

THE SCHOOL YEAR, 1909-1910.

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[The data for these statistics are reported by the School Committees on blank forms sent out by the State Board of Education. Any interpretation of separate items in these tables or use for purposes of comparison should be made with a knowledge of the following facts.

First: That the fiscal year and the school year do not coincide, the former varying with the usage of city or town, the latter consisting uniformly of the twelve months ending June 30, 1909. Second: That school committees do not uniformly agree in their practice in making up some items of the returns. In reporting average wages per month of actual teaching, for example, in some instances the calculation has been made on a basis of ten months in the school year, with no deductions for holidays or other losses in term time; in other cases the average has been computed on the number of months, of twenty days each, the schools have been actually in session.

The generalizations in the tables give a fair statement of the finances and attendance of the public schools of the State, but the figures for individual communities are in some measure affected by considerations like those noted above. In subsequent reports a more exact presentation will be made].

## BOARD OF EDUCATION.

## BARNSTABLE COUNTY.

TOWNS AND CITIES.	SCHOOL CENSUS DATA SEPT. 1, 1909.		No. of public schools.	Valuation — May 1, 1909.	SCHOOL MEMBERSHIP, ATTENDANCE AND GRADUATION DATA FOR THE SCHOOL YEAR.								
	No. of persons in towns be- tween 5 and 15 years of age.	No. of persons in towns be- tween 7 and 14 years of age.			No. of different pupils of all ages in the public schools during the school year.	No. of different pupils with- in the year under 5 years of age.	No. of different pupils with- in the year over 15 years of age.	No. of different pupils with- in the year between 7 and 14 years of age.	Average membership of all the schools.	Average attendance of all the schools.	Percentage of attendance mem- bership based on average mem- bership.	No. graduated from gram- mar schools.	
Barnstable, .	4,336	\$5,792,750	23	657	493	829	—	131	669	752	695	.93	68
Bourne, .	1,786	4,103,875	12	261	203	347	—	47	221	327	302	.92	12
Brewster, .	739	615,997	4	127	79	94	—	13	54	79	75	.95	10
Chatham, .	1,634	1,180,850	9	242	195	262	—	46	173	248	231	.93	22
Dennis, .	1,998	1,224,005	12	248	188	319	—	81	194	285	271	.95	28
Eastham, .	519	442,100	2	82	68	76	1	1	68	71	64	.89	2
Falmouth, .	3,241	8,109,216	18	546	375	619	19	94	408	569	510	.90	36
Harwich, .	2,291	1,378,366	12	368	274	370	—	47	264	325	294	.90	19
Mashpee, .	317	219,710	2	49	41	47	—	3	37	42	39	.95	—
Orleans, .	1,052	631,330	4	165	119	213	—	47	119	192	180	.94	14
Provincetown, .	4,362	2,047,412	22	783	608	987	—	98	666	949	885	.93	29
Sandwich, .	1,433	1,013,225	10	251	179	302	—	28	225	265	250	.94	9
Truro, .	743	372,655	5	145	103	147	—	5	116	130	125	.96	2
Wellfleet, .	958	1,239,400	5	132	94	154	—	18	107	139	129	.93	11
Yarmouth, .	1,422	2,086,849	9	128	134	217	—	31	145	205	193	.94	11
Totals, .	26,831	\$30,457,740	149	4,184	3,153	4,983	20	690	3,466	4,578	4,243	.93	273

## SCHOOL RETURNS.

iii

## BERKSHIRE COUNTY.

Adams, .	12,486	\$6,114,933	43	2,389	1,688	1,931	10	177	1,290	1,727	1,656	.96	62
Alford, .	275	184,391	3	49	33	57	3	2	41	45	40	.83	-
Becket, .	890	518,483	7	173	142	171	-	4	133	134	124	.93	1
Cheshire, .	1,281	797,028	8	249	189	242	1	6	176	232	216	.93	10
Clarksburg, .	1,200	263,196	6	230	196	241	1	2	179	194	174	.90	7
Dalton, .	3,122	3,939,251	20	669	438	759	-	84	485	697	655	.94	38
Egremont, .	721	482,027	4	90	69	104	2	3	75	80	72	.90	5
Florida, .	424	186,057	5	85	64	98	-	2	78	76	68	.90	1
Great Barrington, .	6,152	5,844,680	30	953	724	1,139	-	109	693	1,005	919	.91	36
Hancock, .	434	300,437	5	96	72	92	1	5	63	74	64	.87	1
Hinsdale, .	1,452	577,412	9	233	186	229	2	4	223	203	181	.94	6
Lanesborough, .	845	534,044	5	150	113	146	1	3	92	129	110	.86	8
Lee, .	3,972	2,087,980	15	740	523	693	31	94	477	614	562	.92	20
Lenox, .	3,058	6,107,732	21	557	371	710	7	85	445	631	579	.92	25
Monterey, .	444	311,948	4	61	44	85	-	3	82	58	51	.88	2
Mount Washington, .	87	93,236	2	20	10	24	1	-	15	16	14	.84	-
New Ashford, .	100	50,850	1	20	16	20	1	-	16	16	14	.87	-
New Marlborough, .	1,209	723,655	12	181	145	203	1	21	139	176	159	.90	11
North Adams, .	22,150	16,207,762	81	4,757	3,340	3,378	203	316	2,107	3,015	2,772	.92	143
Otis, .	534	279,177	8	73	57	123	4	8	96	90	74	.82	-
Peru, .	268	140,863	5	53	37	42	1	-	33	38	34	.89	-
Pittsfield, .	25,001	23,271,489	119	4,985	3,504	5,005	172	533	3,181	4,580	4,276	.93	204
Richmond, .	601	367,994	6	111	72	95	2	3	55	81	75	.93	1
Sandisfield, .	657	345,255	7	106	75	143	1	2	102	96	85	.89	6
Savoy, .	549	189,984	7	91	59	110	4	4	76	76	66	.87	5
Sheffield, .	1,782	954,205	13	249	186	289	6	31	195	243	217	.87	11
Stockbridge, .	2,022	4,212,891	11	400	323	403	1	29	254	331	306	.92	14
Tyringham, .	314	267,089	4	74	52	66	1	2	51	46	41	.90	-
Washington, .	339	282,585	5	62	51	53	-	2	40	42	38	.89	6
West Stockbridge, .	1,023	423,771	8	198	141	173	-	5	132	158	144	.91	4
Williamstown, .	4,425	3,549,953	25	744	525	881	2	99	587	786	747	.96	36
Windsor, .	513	277,760	7	89	63	125	3	1	94	87	77	.88	-
Totals, .	98,330	\$79,888,118	506	18,937	13,508	17,830	461	1,639	11,705	15,776	14,610	.93	663

## BOARD OF EDUCATION.

## BARNSTABLE COUNTY — CONTINUED.

TOWNS AND CITIES.	TEACHERS AND TEACHERS' WAGES.					LENGTH OF SCHOOLING.		HIGH SCHOOLS.									
	NUMBER OF TEACHERS REQUIRED BY THE PUBLIC SCHOOLS.		NUMBER OF TEACHERS WHO HAVE GRADUATED FROM COLLEGE.			No. of teachers who have graduated from normal schools.	Average wages per month of male teachers.	Average wages per month of female teachers.	Aggregate of months all the public schools have been kept during the school year.	Average number of months public schools have been kept during the year.	No. of high schools.	No. of teachers.	No. of pupils.	No. of pupils admitted to the freshman class.	No. of graduates.	Length of schooling.	Expenditures for high school support.
	Men.	Women.	In high schools.	In elementary schools.													
					7	24	5	1	19	\$90 00	\$54 00	208-14	9-1	2	6	140	61
Barnstable,	3	11	3	-	7	78 60	46 36	105-1	8-15	1	1	3	50	10	9	9-6	3,532 50
Bourne,	1	4	-	-	2	75 00	43 75	36	9	1	1	2	16	6	-	9	1,133 00
Brewster,	1	10	3	-	3	100 00	36 50	81	9	1	1	3	68	21	9	9	2,185 00
Chatham,	2	8	2	1	4	68 75	42 50	107-8	8-19	2	2	76	28	22	<div><div>9</div><div>9</div></div>	<div><div>1,664 50</div><div></div></div>	
Dennis,	-	2	-	-	2	-	50 00	17-6	8-13	-	-	-	-	-	-	-	-
Eastham,	3	19	3	-	8	96 67	51 19	159	8-15	1	4	84	28	13	9-16	5,149 13	
Falmouth,	2	11	2	1	6	60 00	40 00	102	8-10	1	2	54	15	12	9-15	1,074 87	
Harwich,	1	1	-	-	1	55 00	46 00	17-4	8-12	-	-	-	-	-	-	-	-
Mashpee,	1	6	3	2	2	100 00	46 67	36-4	9-4	1	3	64	17	10	9-16	2,054 05	
Orleans,	2	22	2	-	12	120 00	43 23	184-8	8-8	1	3	104	40	14	9-18	3,000 00	
Provincetown,	1	11	-	-	5	66 67	49 42	86	8-12	1	3	48	8	4	9-14	2,755 62	
Sandwich,	1	11	-	-	2	48 00	46 13	47-9	9-9	-	-	-	-	-	-	-	-
Truro,	1	4	-	1	6	69 00	42 00	46-19	9-7	1	1	23	6	6	9-19	1,175 00	
Wellfleet,	1	4	1	1	4	111 11	47 87	80-2	8-18	1	1	29	11	7	9	1,150 00	
Yarmouth,	1	9	1	1	4	111 11	47 87	80-2	8-18	1	1	29	11	7	9	1,150 00	
Totals,	27	146	25	7	83	\$84 37	\$46 59	1,314-15	8-16	14	33	756	251	114	9-9	\$34,422 51	

# SCHOOL RETURNS.

V

## BERKSHIRE COUNTY — CONTINUED.

Adams,	3	49	7	1	29	\$126 50	\$53 95	404-8	9-8	1	7	190	61	23	9-11	\$8,596 68
Alford,	-	3	-	-	2	-	48 33	28	9-6	-	-	-	-	-	-	-
Becket,	-	7	-	-	6	-	37 75	61-7	8-15	-	-	-	-	-	-	-
Cheshire,	-	8	-	-	4	-	44 25	74-12	9-6	-	-	-	-	-	-	-
Clarksburg,	-	6	-	-	4	-	42 89	53-3	8-17	-	-	-	-	-	-	-
Dalton,	1	21	3	-	10	130 00	50 19	180-10	9-6	1	3	71	30	8	9-17	3,041 70
Egremont,	-	5	-	-	-	-	39 20	38-9	9-12	-	-	-	-	-	-	-
Florida,	-	5	-	-	2	-	38 80	40-19	8-4	-	-	-	-	-	-	-
Gt. Barrington,	2	36	6	-	13	129 67	48 30	270-4	9-4	1	7	178	71	20	8-16	7,932 00
Hancock,	-	5	-	1	1	-	38 44	41-11	8-6	-	-	-	-	-	-	-
Hinsdale,	-	9	-	-	2	-	40 04	84-15	9-8	-	-	-	-	-	-	-
Lanesborough,	-	5	-	-	1	-	46 63	44-4	8-16	-	-	-	-	-	-	-
Lee,	1	19	4	-	10	154 63	49 00	138-16	9-6	1	4	77	32	18	9-14	4,500 00
Lenox,	2	22	3	1	18	95 00	51 50	201-18	9-12	1	3	69	36	11	10	3,844 88
Monterey,	-	4	-	-	2	-	37 12	30-12	9-3	-	-	-	-	-	-	-
Mt. Washington,	-	2	-	-	2	-	40 00	19-15	9-17	-	-	-	-	-	-	-
New Ashford,	-	1	-	-	1	-	57 70	9-3	9-3	-	-	-	-	-	-	-
New Marlborough,	1	12	2	-	1	73 50	32 41	106-10	8-17	1	2	30	10	-	9-11	1,498 88
North Adams,	10	106	12	1	87	127 46	56 24	769	9-10	1	15	376	145	48	9-15	17,396 00
Otis,	-	8	-	-	-	-	32 70	64	8	-	-	-	-	-	-	-
Peru,	-	3	-	-	-	-	37 33	42-7	8-9	-	-	-	-	-	-	-
Pittsfield,	10	144	11	1	47	114 40	55 95	1,160-4	9-16	1	14	455	166	76	9-16	17,670 70
Richmond,	-	6	-	-	1	-	36 00	54-17	9-3	-	-	-	-	-	-	-
Sandisfield,	-	7	-	-	1	-	35 48	54-5	8-8	-	-	-	-	-	-	-
Savoy,	-	11	-	-	-	-	40 00	56	8	-	-	-	-	-	-	-
Sheffield,	1	13	2	-	2	81 50	34 34	119-1	9-3	1	2	35	15	8	9-7	1,491 98
Stockbridge,	1	13	4	-	11	130 00	69 75	106-10	9-11	1	4	46	14	2	9-14	4,326 26
Tyringham,	1	3	-	-	-	40 00	36 00	34-10	8-12	-	-	-	-	-	-	-
Washington,	-	5	-	-	3	-	35 71	44-5	8-17	-	-	-	-	-	-	-
West Stockbridge,	2	6	-	-	1	36 00	42 00	74-15	9-7	-	-	-	-	-	-	-
Williamstown,	5	27	4	1	9	110 00	44 38	225-18	9-1	1	4	125	32	15	9-5	5,006 80
Windsor,	-	7	-	-	-	-	36 19	56	8	-	-	-	-	-	-	-
Totals,	40	578	58	6	270	\$111 97	\$50 19	4,714-8	9-6	11	65	1,652	612	229	9-11	\$75,305 88

## BOARD OF EDUCATION.

## BARNSTABLE COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR THE SUPPORT OF PUBLIC SCHOOLS.							Total expenditure for the support of public schools, being the total of the seven preceding columns.	Amount included in the total expenditure as given in the preceding column, but derived from other sources than local taxation, such as aid from the State, voluntary contributions, income from local funds, etc.	Amount raised by local taxation and expended for the support of public schools, being the total expenditure for such support diminished by contributions from other sources than local taxation.
	Teachers' wages.	Conveyance of pupils.	Fuel and care of school premises.	School committee, including clerical aid and truant service.	Superintendent and assistants.	Text-books and school supplies.	School sundries.			
Barnstable, .	\$20,030 91	\$4,133 37	\$3,744 35	\$21 25	\$1,699 92	\$1,440 05	\$290 98	\$31,360 83	\$3,115 30	\$28,245 53
Bourne, .	7,771 30	2,031 56	1,713 28	66 05	675 00	1,120 88	1,208 36	14,586 43	562 50	14,023 93
Brewster, .	2,139 01	1,051 52	239 83	95 00	255 77	169 70	30 50	3,981 33	1,227 65	2,753 68
Chatham, .	4,375 16	278 00	987 37	240 00	499 17	702 93	597 61	7,680 24	1,547 08	6,133 16
Dennis, .	5,277 50	—	877 50	110 00	750 00	384 33	293 58	7,692 91	1,537 91	6,155 00
Eastham, .	1,617 60	1,451 50	282 50	—	124 71	183 77	17 32	3,677 40	2,223 03	1,454 37
Falmouth, .	12,775 93	3,173 32	3,897 72	25 00	1,475 00	1,707 95	615 15	23,670 07	515 72	23,154 35
Harwich, .	5,227 49	542 00	941 68	167 00	679 26	693 81	529 41	8,780 65	1,596 60	7,184 05
Mashpee, .	1,035 40	147 00	188 19	30 00	150 00	126 56	84 41	1,761 56	700 00	1,061 56
Orleans, .	3,575 20	1,444 00	610 93	20 00	221 85	348 80	55 36	6,276 14	2,420 88	3,855 26
Provincetown, .	11,304 56	—	2,257 66	150 00	1,115 16	1,648 94	1,240 46	17,716 78	1,979 41	15,737 37
Sandwich, .	5,452 59	275 02	1,006 85	3 75	675 00	995 41	41 80	8,450 42	2,081 30	6,369 12
Truro, .	2,168 60	8 25	421 68	92 50	181 80	265 61	28 00	3,166 44	1,666 03	1,500 41
Wellfleet, .	2,561 50	975 75	319 99	120 00	242 40	341 21	136 41	4,697 26	877 59	3,819 67
Yarmouth, .	6,243 32	1,087 75	786 34	210 00	548 71	851 36	152 62	9,880 10	3,029 03	6,851 07
Totals, .	\$91,556 07	\$16,599 04	\$18,275 87	\$1,350 55	\$9,293 75	\$10,981 31	\$5,321 97	\$153,378 56	\$25,080 03	\$128,298 53

## SCHOOL RETURNS.

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## BERKSHIRE COUNTY — CONTINUED.

	\$31,302 52	\$470 60	\$6,002 18	\$216 62	\$2,499 97	\$2,473 01	\$2,074 63	\$45,039 53	\$1,510 06	\$45,039 53
Adams, . . .	1,401 00	—	125 05	30 50	204 56	327 70	21 25	—	—	—
Alford, . . .	4,139 16	—	369 43	58 00	405 40	372 29	—	2,110 06	2,855 83	600 00
Becket, . . .	4,291 80	1,162 10	799 26	60 00	450 00	299 42	265 39	7,327 97	2,187 86	2,488 45
Cheshire, . . .	2,112 00	—	534 78	45 00	500 00	197 10	712 28	4,101 16	2,569 46	5,140 11
Clarksburg, . . .	12,508 25	301 00	2,826 72	355 00	1,200 00	1,328 82	1,307 54	19,887 33	1,076 00	1,531 70
Dalton, . . .	2,065 00	—	229 76	45 85	272 60	87 61	41 72	19,811 33	981 39	18,811 33
Egremont, . . .	1,353 00	—	82 85	43 25	216 73	74 92	102 56	2,083 31	1,505 62	1,761 15
Florida, . . .	19,300 05	1,432 15	4,906 44	20 00	1,770 81	1,646 82	1,068 17	30,144 44	1,329 50	577 69
Great Barrington, . . .	1,578 40	47 50	121 04	35 00	500 00	104 14	30 00	2,416 08	1,466 65	28,814 94
Hancock, . . .	4,035 40	181 25	465 68	75 00	563 28	659 12	119 65	6,099 38	2,030 22	949 43
Hinsdale, . . .	2,537 35	517 70	516 60	127 00	416 63	155 04	207 31	4,497 63	1,914 50	4,069 16
Lanesborough, . . .	10,866 00	941 52	1,996 41	350 00	720 00	660 20	597 15	16,131 28	2,583 13	14,328 37
Lee, . . .	12,115 63	698 00	3,702 99	—	1,500 00	1,144 69	753 56	19,914 87	500 00	19,414 87
Lenox, . . .	1,304 75	622 80	102 33	—	300 00	78 63	75 06	2,483 57	1,412 14	1,071 43
Monterey, . . .	791 00	—	58 30	18 00	150 00	119 51	28 26	1,165 07	797 00	368 07
Mt. Washington, . . .	528 00	114 00	54 80	44 50	83 31	16 14	51 66	892 41	825 47	66 94
New Ashford, . . .	4,427 10	182 00	359 84	77 00	570 00	393 16	219 19	6,228 29	2,045 35	4,182 94
New Marlborough, . . .	66,230 95	498 00	12,255 47	1,896 25	2,500 00	5,825 88	2,035 49	91,242 04	935 00	90,307 04
North Adams, . . .	2,093 00	61 50	48 50	38 00	300 00	92 64	24 70	2,658 34	1,040 31	1,618 03
Otis, . . .	1,125 20	338 20	64 37	30 00	280 16	361 24	25 50	2,224 67	1,510 80	713 87
Peru, . . .	96,011 47	1,019 25	18,117 23	1,494 13	2,391 68	8,412 51	1,983 97	129,430 24	—	129,430 24
Pittsfield, . . .	2,315 50	102 25	286 19	20 00	477 20	232 68	14 89	3,448 71	1,800 61	1,648 10
Richmond, . . .	1,937 50	247 93	200 15	72 90	375 00	58 31	76 48	2,968 27	1,356 27	1,612 00
Sandisfield, . . .	2,330 00	30 00	85 50	43 00	384 72	85 65	27 23	2,986 10	1,729 89	1,256 21
Savoy, . . .	5,092 54	365 00	902 23	20 00	780 00	524 33	189 24	7,873 34	2,253 41	5,619 93
Sheffield, . . .	9,852 00	1,901 53	2,089 27	62 00	500 00	662 31	744 84	15,811 95	314 34	15,497 61
Stockbridge, . . .	1,598 30	93 12	151 63	—	180 00	17 52	28 00	2,068 57	1,545 35	523 22
Tyringham, . . .	2,114 90	—	112 25	31 50	134 44	56 07	44 24	2,493 40	1,405 48	1,087 92
Washington, . . .	4,043 65	700 60	341 19	10 00	545 50	282 66	148 41	6,072 01	2,984 81	3,087 20
West Stockbridge, . . .	14,345 80	114 00	4,148 37	121 00	1,200 00	1,021 00	450 14	21,400 31	422 30	20,978 01
Williamstown, . . .	2,204 35	131 04	125 30	40 00	383 22	257 42	27 89	3,109 22	1,644 02	1,525 20
Windsor, . . .										
Totals, . . .	\$328,031 57	\$12,483 04	\$62,182 11	\$5,479 50	\$22,755 21	\$28,028 54	\$13,496 40	\$472,456 37	\$45,752 55	\$426,703 82

## BOARD OF EDUCATION.

## BARNSTABLE COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR SCHOOL BUILDINGS.			Total expenditure for school buildings being the total of the three preceding columns.	Amount included in the total expenditure for school buildings as given in the preceding column, but derived from other sources than local taxation.	Amount raised by local taxation and expended for school buildings.	Amount raised by local taxation and expended for support of the public schools and for school buildings, that is, for all school purposes.	LOCAL FUNDS WHOSE INCOME MUST BE APPROPRIATED TO THE PUBLIC SCHOOLS.		Dog tax and other income voluntarily appropriated to the public schools.
	New schoolhouses.	Alterations and permanent repairs.	Ordinary repairs.					Principal.	Income.	
Barnstable,	-	-	\$2,387 67	\$2,387 67	-	\$2,387 67	\$30,633 20	\$10,000 00	\$394 32	\$519 30
Bourne,	-	-	530 00	530 00	-	530 00	14,553 93	-	-	-
Brewster,	-	-	218 92	218 92	-	218 92	2,972 60	-	-	116 38
Chatham,	-	-	-	-	-	-	6,133 16	-	-	183 94
Dennis,	-	\$70 38	592 13	662 51	-	662 51	6,817 51	-	-	204 68
Eastham,	-	736 26	88 30	824 56	-	824 56	2,278 93	-	-	98 16
Falmouth,	-	976 17	1,568 90	2,545 07	-	2,545 07	25,699 42	11,239 00	515 72	247 65
Harwich,	-	656 73	231 51	888 24	-	888 24	8,072 29	1,000 00	40 00	52 25
Mashpee,	-	278 74	-	278 74	-	278 74	1,340 30	-	-	159 26
Orleans,	-	-	109 45	109 45	-	109 45	3,964 71	-	-	-
Provincetown,	-	168 00	1,000 00	1,168 00	-	1,168 00	16,905 37	-	-	348 80
Sandwich,	-	-	512 90	512 90	-	512 90	6,882 02	-	-	-
Truro,	-	-	75 23	75 23	-	75 23	1,575 64	-	-	59 00
Wellfleet,	-	-	137 93	137 93	-	137 93	3,957 60	-	-	23 50
Yarmouth,	-	-	217 69	217 69	-	217 69	7,068 76	1,500 00	705 00	-
Totals,	-	\$2,886 28	\$7,670 63	\$10,556 91	-	\$10,556 91	\$138,855 44	\$23,739 00	\$1,655 04	\$2,012 92



## SCHOOL RETURNS.

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## BERKSHIRE COUNTY — CONTINUED.

Adams, . . . . .	\$42,421 61	\$1,963 73	\$804 74	\$45,190 08	-	\$45,190 08	\$90,229 61	-	-	-	-	-
Alford, . . . . .	-	33 16	-	33 16	-	33 16	633 16	-	-	-	-	-
Becket, . . . . .	-	-	155 81	155 81	-	155 81	2,644 26	-	-	-	-	\$150 26
Cheshire, . . . . .	-	-	70 56	70 56	-	70 56	5,210 67	-	-	-	-	-
Clarksburg, . . . . .	-	52 11	54 46	106 57	-	106 57	1,638 27	-	-	-	-	-
Dalton, . . . . .	-	-	2,535 14	2,535 14	-	2,535 14	21,346 47	-	-	-	-	-
Egremont, . . . . .	-	226 17	38 19	264 36	-	264 36	2,025 51	-	-	-	-	54 49
Florida, . . . . .	-	-	-	-	-	-	577 69	-	-	-	-	-
Great Barrington, . . . . .	24,619 42	490 64	649 78	25,759 84	-	25,759 84	54,574 78	-	-	-	-	-
Hancock, . . . . .	-	-	134 67	134 67	-	134 67	1,084 10	\$200 00	\$12 00	-	-	-
Hinsdale, . . . . .	-	48 51	32 50	81 01	-	81 01	4,150 17	-	-	-	-	-
Lanesborough, . . . . .	-	378 43	67 12	445 55	-	445 55	3,028 68	-	-	-	-	-
Lee, . . . . .	-	-	570 96	570 96	-	570 96	14,899 33	-	-	-	-	-
Lenox, . . . . .	63,890 70	-	840 15	64,730 85	-	64,730 85	84,145 72	-	-	-	-	149 71
Monterey, . . . . .	-	200 00	26 86	226 86	-	226 86	1,298 29	-	-	-	-	40 02
Mount Washington, . . . . .	-	-	-	-	-	-	368 07	100 00	6 00	-	-	-
New Ashford, . . . . .	-	-	13 63	13 63	-	13 63	80 57	-	-	-	-	-
New Marlborough, . . . . .	-	31 00	78 54	109 54	-	109 54	4,292 48	-	-	-	-	320 98
North Adams, . . . . .	-	2,673 96	3,176 21	5,850 17	-	5,850 17	96,157 21	-	-	-	-	801 36
Otis, . . . . .	-	-	60 60	60 60	-	60 60	1,678 63	-	-	-	-	78 63
Peru, . . . . .	-	-	-	-	-	-	713 87	-	-	-	-	53 87
Pittsfield, . . . . .	83,154 71	6,259 34	3,666 43	93,080 48	-	93,080 48	222,510 72	-	-	-	-	-
Rhinecliff, . . . . .	-	-	93 76	93 76	-	93 76	1,741 86	-	-	-	-	79 09
Randisfield, . . . . .	-	-	57 01	57 01	-	57 01	1,612 00	1,290 00	77 40	-	-	-
Savoy, . . . . .	-	-	42 65	42 65	-	42 65	1,298 86	1,297 00	77 82	-	-	118 63
Sheffield, . . . . .	-	17 79	33 15	8,269 92	-	3,653 10	9,273 03	1,000 00	70 06	-	-	294 93
Stockbridge, . . . . .	8,218 98	-	492 22	492 22	-	492 22	15,989 83	-	-	-	-	-
Tyringham, . . . . .	-	107 15	92 86	200 01	-	200 01	723 23	-	-	-	-	92 12
Washington, . . . . .	-	-	-	-	-	-	1,087 92	-	-	-	-	81 42
West Stockbridge, . . . . .	-	369 90	42 90	412 80	-	412 80	3,500 00	-	-	-	-	-
Williamstown, . . . . .	-	634 80	1,652 23	2,287 03	-	2,287 03	23,265 04	-	-	-	-	-
Windsor, . . . . .	-	-	10 64	10 64	-	10 64	1,535 84	378 50	11 42	-	-	95 84
Totals, . . . . .	\$222,305 42	\$13,486 69	\$15,493 77	\$251,285 88	\$4,673 83	\$246,612 05	\$673,315 87	\$4,265 50	\$254 70	-	-	\$2,411 35

## BOARD OF EDUCATION.

## BARNSTABLE COUNTY — CONCLUDED.

TOWNS AND CITIES.	Town's share of school fund income paid Jan. 25, 1910.	Amount of voluntary contributions expended on the public schools but not included in expenditures by the town or city.	ACADEMIES AND PRIVATE SCHOOLS.				ESTIMATED AMOUNT OF TUITION PAID IN —		FUNDS WHOSE INCOME MUST BE APPROPRIATED TO ACADEMIES OR PRIVATE SCHOOLS.	
			No. of academies.	No. of different academy pupils attending during the year.	No. of private schools.	No. of different private school pupils attending during the year.	Academies.	Private schools.	Principal.	Income.
Barnstable,	.	.	.	.	.	.	.	.	.	.
Bourne,	.	.	.	.	.	.	.	.	.	.
Brewster,	.	.	.	.	.	.	.	.	.	.
Chatham,	.	\$1,033 35	.	.	.	.	.	.	.	.
Dennis,	.	883 36	.	.	.	.	.	.	.	.
Eastham,	.	883 36	.	.	.	.	.	.	.	.
Falmouth,	.	1,233 35	.	.	.	.	.	.	.	.
Harwich,	.	—	.	.	.	.	.	.	.	.
Mashpee,	.	1,127 80	.	.	.	.	.	.	.	.
Marblehead,	.	1,161 68	.	.	.	.	.	.	.	.
Orleans,	.	1,277 80	.	.	.	.	.	.	.	.
Provincetown,	.	808 35	.	.	.	.	.	.	.	.
Sandwich,	.	736 68	.	.	.	.	.	.	.	.
Truro,	.	1,063 90	.	.	.	.	.	.	.	.
Wellfleet,	.	886 68	.	.	.	.	.	.	.	.
Yarmouth,	.	75 00	.	.	.	.	.	.	.	.
Totals,	.	\$11,171 31	.	.	.	.	.	.	.	.
		\$1,100 00	.	.	.	.	.	.	.	.
		\$1,100 00	.	.	.	.	.	.	.	.

# SCHOOL RETURNS.

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## BERKSHIRE COUNTY -- CONCLUDED.

Adams, . . . . .	-	\$725 00	-	1	415	-	-	-	-
Alford, . . . . .	\$1,086 68	-	-	-	-	-	-	-	-
Becket, . . . . .	1,477 80	-	-	-	-	-	-	-	-
Cheshire, . . . . .	1,033 36	-	-	-	-	-	-	-	-
Clarksburg, . . . . .	1,552 81	-	-	-	-	-	-	-	-
Dalton, . . . . .	-	-	-	-	-	-	-	-	-
Egremont, . . . . .	1,086 69	-	-	1	13	-	\$4,000 00	-	-
Florida, . . . . .	1,063 90	-	-	2	22	-	-	\$35,000 00	-
Great Barrington, . . . . .	-	-	-	-	-	-	-	-	-
Hancock, . . . . .	1,086 68	-	-	-	-	-	-	-	-
Hinsdale, . . . . .	1,277 80	-	-	-	-	-	-	-	-
Lanesborough, . . . . .	1,277 80	-	-	-	-	-	-	-	-
Lee, . . . . .	808 35	-	-	1	172	-	-	-	-
Lenox, . . . . .	-	-	-	-	-	-	-	-	-
Monterey, . . . . .	1,233 35	-	-	-	-	-	-	-	-
Mount Washington, . . . . .	1,063 90	-	-	-	-	-	-	-	-
New Ashford, . . . . .	575 00	-	-	-	-	-	-	-	-
New Marlborough, . . . . .	1,033 35	-	-	2	1,485	-	-	-	-
North Adams, . . . . .	-	-	-	-	-	-	-	-	-
Otis, . . . . .	1,233 35	-	-	-	-	-	-	-	-
Peru, . . . . .	1,308 35	-	-	-	-	-	-	-	-
Pittsfield, . . . . .	-	400 00	-	3	610	-	53,500 00	-	-
Richmond, . . . . .	1,161 68	-	-	-	-	-	-	-	-
Sandisfield, . . . . .	1,161 68	8 00	-	-	-	-	-	-	-
Savoy, . . . . .	1,308 35	-	-	-	-	-	-	-	-
Sheffield, . . . . .	1,033 35	75 00	-	-	-	-	-	-	-
Stockbridge, . . . . .	-	-	-	-	-	-	-	-	-
Tyringham, . . . . .	1,233 35	-	-	-	-	-	-	-	-
Washington, . . . . .	1,233 35	-	-	-	-	-	-	-	-
West Stockbridge, . . . . .	1,552 80	-	-	-	-	-	-	-	-
Williamstown, . . . . .	-	350 00	-	-	-	-	-	-	-
Windsor, . . . . .	1,233 35	-	-	-	-	-	-	-	-
Totals, . . . . .	\$28,117 08	\$1,558 00	-	10	2,717	-	\$57,500 00	\$35,000 00	-

## BOARD OF EDUCATION.

## BRISTOL COUNTY.

TOWNS AND CITIES.	SCHOOL CENSUS DATA SEPT. 1, 1909.		No. of public schools.	SCHOOL MEMBERSHIP, ATTENDANCE AND GRADUATION DATA FOR THE SCHOOL YEAR.								
	No. of persons in towns be- tween 5 and 15 years of age.	No. of persons in towns be- tween 7 and 14 years of age.		No. of different pupils with- in the year under 5 years of age.	No. of different pupils with- in the year over 15 years of age.	No. of different pupils with- in the year between 7 and 14 years of age.	Average membership of all the schools.	Average attendance of all the schools.	Percentage of attendance mem- bership.	No. graduated from gram- mar schools.		
Acushnet, .	1,284	250	7	224	193	—	3	167	169	158	.93	4
Attleborough, .	12,702	2,581	52	1,819	2,703	52	195	1,837	2,351	2,210	.94	126
Berkley, .	931	175	7	135	203	2	2	151	168	156	.93	3
Dartmouth, .	3,793	832	24	619	699	5	44	525	684	631	.92	30
Dighton, .	2,070	333	12	279	371	1	5	284	321	300	.94	3
Easton, .	4,909	889	27	632	1,112	52	119	696	1,000	953	.95	54
Fairhaven, .	4,235	987	21	720	884	2	114	574	839	798	.95	43
Fall River, .	105,762	22,557	326	16,535	16,873	186	1,081	11,720	14,297	13,194	.92	464
Freetown, .	1,470	274	9	203	305	—	4	245	240	206	.86	9
Mansfield, .	4,245	847	21	680	903	1	97	613	833	764	.92	39
New Bedford, .	74,362	15,568	243	11,555	11,364	147	692	8,463	10,014	9,401	.94	226
North Attleborough, .	7,878	1,278	31	905	1,466	6	170	941	1,319	1,245	.91	75
Norton, .	2,079	376	10	263	359	2	24	239	322	292	.91	10
Raynham, .	1,662	262	8	184	219	—	3	182	202	180	.89	10
Rehoboth, .	1,991	348	15	283	371	1	6	295	296	269	.91	3
Seekonk, .	1,917	455	10	339	371	1	5	291	334	288	.86	14
Somerset, .	2,294	497	13	412	520	5	23	394	483	455	.94	21

## DUKES COUNTY.

Swansea,	.	1,839	1,551,074	12	316	246	339	6	5	256	279	249	.89	9
Taunton,	.	30,967	22,699,904	130	5,632	4,072	4,677	-	348	3,216	4,370	4,136	.95	198
Westport,	.	2,867	1,739,800	18	533	380	487	3	14	389	434	402	.93	7
Totals,	.	269,257	\$238,343,012	996	54,990	40,485	44,419	472	2,954	31,478	38,955	36,287	.93	1,348

Chilmark,	.	322	\$309,662	2	32	18	33	-	-	27	26	22	.88	-
Edgartown,	.	1,175	1,054,100	5	160	108	190	-	24	81	165	147	.89	7
Gay Head,	.	178	29,172	1	37	24	37	-	2	31	33	32	.96	-
Gosnold,	.	161	584,286	1	12	11	15	-	-	12	11	10	.95	2
Oak Bluffs,	.	1,138	1,825,700	6	190	163	220	-	10	174	197	174	.89	7
Tisbury,	.	1,120	1,463,377	6	197	149	220	-	39	148	196	185	.94	18
West Tisbury,	.	457	542,562	4	61	46	69	-	15	46	65	60	.93	6
Totals,	.	4,551	\$5,808,859	25	689	519	784	-	90	519	693	630	.90	40

## BOARD OF EDUCATION.

## BRISTOL COUNTY — CONTINUED.

TOWNS AND CITIES.	TEACHERS AND TEACHERS' WAGES.				LENGTH OF SCHOOLING.				HIGH SCHOOLS.							
	NUMBER OF TEACHERS REQUIRED BY THE PUBLIC SCHOOLS.		NUMBER OF TEACHERS WHO HAVE GRADUATED FROM COLLEGE.		No. of teachers who have graduated from normal schools.	Average wages per month of male teachers.	Average wages per month of female teachers.	Aggregate of months all the public schools have been kept during the school year.	Average number of months public schools have been kept during the year.	No. of high schools.	No. of teachers.	No. of pupils.	No. of pupils admitted to the freshman class.	No. of graduates.	Length of schooling.	Expenditures for high school support.
			In high schools.	In elementary schools.												
Acushnet, . . . . .	1	7	1	2	5	—	\$44 14	64-6	9-3	1	10	237	96	30	9-8	\$12,063 01
Attleborough, . . . . .	5	71	10	—	37	\$122 00	56 98	476-6	9-3	1	—	—	—	—	—	—
Berkley, . . . . .	—	7	—	—	4	—	36 85	63	8	—	—	—	—	—	9-13	—
Dartmouth, . . . . .	2	25	3	—	7	85 00	46 41	209-16	8-18	3	4	23	14	12	9-13	2,300 00
Dighton, . . . . .	—	12	—	—	6	—	44 83	106-6	8-17	—	—	—	—	—	—	—
Easton, . . . . .	2	37	3	—	13	150 00	51 59	253-16	9-8	1	4	123	42	17	9-10	8,374 50
Fairhaven, . . . . .	4	28	10	3	18	165 00	62 39	201-4	9-11	1	11	134	50	17	9-10	—
Fall River, . . . . .	31	415	19	15	81	144 48	58 08	3,145-18	9-13	1	28	847	315	129	9-16	44,776 68
Freetown, . . . . .	3	6	—	—	4	46 00	40 00	70	8	—	—	—	—	—	—	—
Mansfield, . . . . .	2	26	4	—	15	115 00	45 17	200-8	9-10	1	5	114	32	13	9-11	5,931 83
New Bedford, . . . . .	20	284	19	7	101	175 85	70 53	2,307-19	9-10	1	22	539	174	75	9-16	38,073 29
No. Attleborough, . . . . .	3	39	6	1	28	130 00	54 22	282-7	9-2	1	7	164	49	22	9-16	8,225 71
Norton, . . . . .	2	12	2	—	5	80 00	42 83	92-7	9-4	1	3	47	21	—	9-10	2,456 61
Raynham, . . . . .	1	7	—	—	4	56 54	46 00	70-13	8-16	—	—	—	—	—	—	—
Rehoboth, . . . . .	—	15	—	—	1	—	34 93	130-10	8-14	—	—	—	—	—	—	—
Seekonk, . . . . .	—	11	—	—	3	—	43 08	86-3	8-12	—	—	—	—	—	—	—
Somerset, . . . . .	1	12	1	—	4	70 00	39 50	118	9-1	1	1	31	17	10	10	2,151 00

Swansea, .	2	10	-	1	5	42 00	37 32	103-16	8-13	-	-	-	-	-
Taunton, .	11	141	12	5	69	135 00	57 00	1,227-10	9-8	1	12	415	162	17,910 19
Westport, .	2	18	1	-	3	50 00	38 35	155-6	8-14	1	1	10	7	535 00
Totals,	91	1,183	90	34	413	\$136 80	\$58 35	9,365-11	9-8	14	108	2,684	979	\$142,797 82

## DUKES COUNTY — CONTINUED.

Chilmark, .	1	1	-	-	2	\$60 00	\$50 00	18	9	-	-	-	-	-
Edgartown, .	1	6	2	-	-	77 20	40 80	43-4	8-14	1	2	31	8	\$1,405 00
Gay Head, .	1	1	-	-	1	66 66	44 44	8-5	8-5	-	-	-	-	-
Gosnold, .	-	1	-	-	1	-	55 00	9	9	-	-	-	-	-
Oak Bluffs, .	1	6	1	-	4	76 66	43 61	53-8	8-18	1	2	23	12	1,322 48
Tisbury, .	1	6	2	-	3	97 92	43 16	53-11	8-18	1	2	25	18	1,909 85
West Tisbury, .	-	4	1	-	3	-	46 25	35-7	8-16	1	1	10	8	352 00
Totals,	5	25	6	-	14	\$75 68	\$43 99	220-15	8-16	4	7	89	46	\$4,989 33

## BRISTOL COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR THE SUPPORT OF PUBLIC SCHOOLS.							Total expenditure for the support of public schools, being the total of the seven preceding columns.	Amount included in the total expenditure as given in the preceding column, but derived from other sources than local taxation, such as aid from the State, voluntary contributions, income from local funds, etc.	Amount raised by local taxation and expended for the support of public schools, being the total expenditure for such support diminished by contributions from other sources than local taxation.
	Teachers' wages.	Conveyance of pupils.	Fuel and care of school premises.	School committee, including clerical aid and truant service.	Superintendent and assistants.	Text-books and school supplies.	School sundries.			
Acushnet, .	\$4,416 63	\$1,087 50	\$502 10	\$75 00	\$389 58	\$253 35	\$354 68	\$7,078 84	\$2,636 81	\$4,442 03
Attleborough, .	49,299 28	2,872 00	11,649 46	1,590 45	2,100 00	3,959 38	2,255 14	73,725 71	610 01	73,115 70
Berkley, .	2,339 05	—	332 73	109 50	310 00	217 24	423 04	3,731 56	2,223 41	1,508 15
Dartmouth, .	13,103 30	2,177 00	3,228 51	326 73	950 00	1,012 95	796 83	21,595 32	741 80	20,853 52
Dighton, .	6,814 75	595 50	665 25	7 50	542 50	582 88	87 66	9,296 04	1,595 41	7,700 63
Easton, .	20,666 09	2,504 38	3,505 11	151 09	1,700 00	1,843 44	964 77	31,334 88	7,440 42	23,894 46
Fairhaven, .	25,099 00	1,799 50	6,330 92	279 60	1,408 34	2,452 86	2,426 83	40,397 05	20,119 41	20,277 64
Fall River, .	289,858 80	833 80	65,935 97	7,185 65	3,000 00	17,469 80	7,593 58	391,877 60	9,867 45	382,010 15
Freetown, .	4,076 11	309 75	558 37	160 40	582 95	375 30	124 98	6,187 86	1,746 73	4,441 13
Mansfield, .	14,595 00	752 88	3,270 16	285 00	720 00	2,777 86	647 75	23,048 65	580 50	22,468 15
New Bedford, .	231,236 65	345 50	40,660 71	5,443 28	4,996 79	14,107 54	14,153 20	310,943 67	2,511 45	308,432 22
No. Attleborough, .	26,166 05	100 00	5,471 60	175 00	1,899 46	2,270 90	2,366 86	38,449 87	—	38,449 87
Norton, .	7,226 00	926 75	1,217 85	41 00	706 68	755 08	249 63	11,122 99	1,737 23	9,385 76
Raynham, .	4,156 32	788 00	371 08	119 73	300 00	191 06	149 70	6,075 89	2,498 26	3,577 63
Rehoboth, .	4,772 10	—	351 75	155 00	579 37	192 45	99 61	6,150 28	630 00	5,520 28
Seekonk, .	5,024 50	277 68	628 33	10 00	550 00	391 94	175 40	7,057 85	2,040 38	5,017 47
Somerset, .	5,228 60	496 00	792 85	187 01	600 00	540 00	240 54	8,085 00	1,289 50	6,795 50



## DUKES COUNTY — CONTINUED.

Swansea, . . .	5,486 22	70 00	1,145 67	109 50	550 04	212 74	211 78	7,785 95	2,305 96	5,479 99
Taunton, . . .	99,147 58	1,488 85	18,712 73	1,250 00	2,400 00	7,463 65	3,701 36	134,164 17	4,355 95	129,808 22
Westport, . . .	6,848 55	696 75	1,267 18	255 80	750 00	497 89	393 92	10,710 09	1,450 58	9,259 51
Totals, . . .	\$826,160 58	\$18,121 84	\$166,598 33	\$17,917 24	\$25,035 71	\$57,568 31	\$37,417 26	\$1,148,819 27	\$66,381 26	\$1,082,438 01

Chilmark, . . .	\$1,329 46	\$54 00	\$109 00	\$42 00	\$159 96	\$72 64	\$50 32	\$1,817 38	\$703 20	\$1,114 18
Edgartown, . . .	3,279 05	408 00	349 43	85 00	319 36	423 12	162 65	5,026 61	900 00	4,126 61
Gay Head, . . .	1,075 00	—	108 48	23 00	80 00	55 67	81 51	1,423 66	1,335 52	88 14
Gosnold, . . .	495 00	—	44 00	41 25	—	21 44	10 75	612 44	537 44	75 00
Oak Bluffs, . . .	2,975 00	275 00	738 50	95 00	400 00	293 34	403 35	5,180 19	429 50	4,750 69
Tisbury, . . .	3,271 16	263 00	521 64	75 00	366 63	513 72	169 86	5,181 01	1,162 50	4,018 51
West Tisbury, . . .	1,905 00	55 50	307 48	35 00	240 00	177 16	42 98	2,763 12	2,115 11	648 01
Totals, . . .	\$14,329 67	\$1,055 50	\$2,178 53	\$396 25	\$1,565 95	\$1,557 09	\$921 42	\$22,004 41	\$7,183 27	\$14,821 14

## BOARD OF EDUCATION.

## BRISTOL COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR SCHOOL BUILDINGS.			Total expenditure for school buildings being the total of the three preceding columns.	Amount included in the total expenditure for school buildings as given in the preceding column, but derived from other sources than local taxation.	Amount raised by local taxation and expended for school buildings, that is, for all school purposes.	LOCAL FUNDS WHOSE INCOME MUST BE APPROPRIATED TO THE PUBLIC SCHOOLS.		Dog tax and other income voluntarily appropriated to the public schools.
	New schoolhouses.	Alterations and permanent repairs.	Ordinary repairs.				Principal.	Income.	
Acushnet, . . . . .	—	—	\$392 18	\$392 18	—	\$4,834 21	—	—	\$381 67
Attleborough, . . . . .	\$155 57	\$4,434 96	3,496 98	8,087 51	—	81,203 21	—	—	2,026 08
Berkley, . . . . .	—	—	223 66	223 66	—	1,731 81	—	—	—
Dartmouth, . . . . .	2,151 65	586 50	610 67	3,348 82	—	24,202 34	\$2,000 00	\$80 80	649 47
Dighton, . . . . .	—	208 26	387 55	595 81	—	8,296 44	—	—	262 50
Easton, . . . . .	—	—	1,061 16	1,061 16	—	24,955 62	103,000 00	7,526 94	841 27
Fairhaven, . . . . .	—	—	1,551 52	1,551 52	—	21,436 56	7,500 00	305 34	646 88
Fall River, . . . . .	56,190 53	—	21,529 03	77,719 56	\$392 60	459,729 71	50,000 00	2,573 38	—
Freetown, . . . . .	1,272 78	—	351 42	1,624 20	—	6,065 33	—	—	240 04
Mansfield, . . . . .	—	—	1,998 92	1,998 92	—	24,467 07	—	—	668 89
New Bedford, . . . . .	40,468 31	12,857 39	2,500 00	55,825 70	—	364,257 92	51,000 00	3,060 00	1,749 91
North Attleborough, . . . . .	15,044 29	1,776 19	1,679 39	18,499 87	—	56,949 74	—	—	1,399 35
Norton, . . . . .	—	54 80	260 58	315 38	—	9,701 14	—	—	366 71
Raynham, . . . . .	—	—	117 11	117 11	—	3,694 74	—	—	181 70
Rehoboth, . . . . .	—	—	455 37	455 37	—	5,975 65	—	—	—
Seekonk, . . . . .	—	586 45	283 45	869 90	—	5,887 37	—	339 04	359 38
Somerset, . . . . .	—	41 55	309 98	351 53	—	7,147 03	—	—	262 19

Swansea, .	.	-	-	260 92	260 92	-	260 92	5,740 91	-	-	461 29
Taunton, .	.	-	9,192 93	7,034 88	16,227 81	-	16,227 81	146,036 03	-	-	-
Westport, .	.	-	-	745 84	745 84	-	745 84	10,005 35	-	-	552 11
Totals, .	.	\$115,283 13	\$29,739 03	\$45,250 61	\$190,272 77	\$392 60	\$189,880 17	\$1,272,318 18	\$213,500 00	\$13,885 50	\$11,049 44

## DUKES COUNTY -- CONTINUED.

Chilmark, .	.	-	\$36 00	-	\$36 00	-	\$36 00	\$1,150 18	-	-	-
Edgartown, .	.	-	679 10	\$27 70	706 80	-	706 80	4,833 41	-	-	\$116 85
Gay Head, .	.	-	71 82	-	71 82	-	71 82	159 96	-	-	-
Gosnold, .	.	-	-	-	-	-	-	75 00	-	-	-
Oak Bluffs, .	.	-	-	405 21	405 21	-	405 21	5,155 90	-	-	-
Tisbury, .	.	-	-	35 06	35 06	-	35 06	4,053 57	-	-	130 57
West Tisbury, .	.	-	-	42 00	42 00	-	42 00	690 01	-	-	-
Totals, .	.	-	\$786 92	\$509 97	\$1,296 89	-	\$1,296 89	\$16,118 03	-	-	\$247 42



### SCHOOL RETURNS.

[illegible]

## DUKES COUNTY — CONCLUDED.

[illegible]

## ESSEX COUNTY.

TOWNS AND CITIES.	SCHOOL CENSUS DATA SEPT. 1, 1909.		No. of public schools.	SCHOOL MEMBERSHIP, ATTENDANCE AND GRADUATION DATA FOR THE SCHOOL YEAR.									
	No. of persons in towns be- tween 5 and 15 years of age.	No. of persons in towns be- tween 7 and 14 years of age.		No. of different pupils of all ages in the public schools during the school year.	No. of different pupils with- in the year under 5 years of age.	No. of different pupils with- in the year over 15 years of age.	No. of different pupils with- in the year between 7 and 14 years of age.	Average membership of all the schools.	Average attendance of all the schools.	Percentage of attendance based on average mem- bership.	No. graduated from gram- mar schools.		
Amesbury,	8,840	\$6,087,070	21	1,533	1,092	952	—	177	562	872	821	.94	68
Andover,	6,632	6,471,167	35	1,197	845	1,308	69	110	844	1,167	1,089	.93	69
Beverly,	15,223	33,269,775	76	3,121	2,164	3,625	—	446	2,116	3,211	2,962	.92	225
Boxford,	665	1,301,860	6	112	89	95	—	1	81	86	79	.92	5
Danvers,	9,063	6,012,120	36	1,492	1,096	1,595	3	225	1,000	1,485	1,418	.95	92
Essex,	1,790	1,142,265	8	266	184	314	6	47	190	285	269	.94	20
Georgetown,	1,840	1,025,400	8	360	346	299	—	4	277	293	276	.94	34
Gloucester,	26,011	22,279,512	113	4,604	3,324	5,028	66	668	3,208	4,698	4,556	.96	229
Groveland,	2,401	1,162,672	12	417	289	460	2	44	292	427	410	.95	25
Hamilton,	1,646	3,798,420	10	350	268	335	1	18	271	302	275	.91	19
Haverhill,	37,830	30,991,641	140	6,904	4,854	6,211	217	732	3,726	5,502	5,122	.93	315
Ipswich,	5,205	4,786,749	21	822	565	876	6	44	565	763	708	.93	36
Lawrence,	70,080	59,434,446	205	13,084	9,526	9,154	3	575	7,173	8,232	7,680	.93	387
Lynn,	77,042	70,076,492	240	12,784	9,132	11,222	—	1,271	7,225	10,387	9,726	.95	490
Lynnfield,	797	782,096	4	129	102	115	—	1	86	103	96	.93	4
Manchester,	2,618	13,239,933	12	418	305	541	53	69	278	484	451	.92	20
Marblehead,	7,209	7,753,840	28	1,122	790	1,278	59	133	777	1,183	1,091	.92	58
Merrimac,	1,884	1,246,700	9	307	223	375	3	46	232	358	334	.93	40
Methuen,	8,676	6,133,295	43	2,064	1,494	1,825	22	139	1,290	1,697	1,579	.92	51
Middleton,	1,068	791,271	4	161	141	161	3	3	118	142	121	.85	2
Nahant,	922	6,128,760	5	164	138	209	—	26	129	178	163	.92	16

## SCHOOL RETURNS.

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Newbury, .	1,480	1,232,481	7	205	167	223	1	2	171	192	176	.91	10
Newburyport, .	14,675	12,269,721	47	2,392	1,880	2,081	-	298	1,296	1,917	1,788	.93	155
North Andover, .	4,614	4,603,605	24	900	714	951	2	95	693	858	820	.96	35
Peabody, .	13,098	10,391,814	48	2,461	1,899	2,241	8	212	1,466	2,109	1,955	.92	115
Rockport, .	4,447	3,272,985	20	837	589	862	7	63	576	802	772	.96	47
Rowley, .	1,388	747,357	8	278	205	271	-	3	198	251	234	.92	10
Salem, .	37,627	32,909,600	122	7,204	5,102	5,276	159	576	2,855	4,627	4,320	.94	259
Salisbury, .	1,622	891,360	9	288	233	281	1	7	203	245	226	.92	13
Saugus, .	6,253	5,206,273	38	1,581	1,088	1,617	-	147	1,061	1,514	1,418	.93	62
Swampscott, .	5,141	10,125,926	23	819	667	1,046	-	147	662	763	715	.97	54
Topsfield, .	1,095	1,270,217	5	109	84	132	-	13	81	118	108	.92	9
Wenham, .	924	2,517,600	6	189	141	153	2	4	114	146	136	.93	11
West Newbury, .	1,405	1,077,422	9	259	217	279	2	34	194	248	224	.90	12
Totals, .	381,181	\$370,431,845	1,402	68,953	49,953	61,391	695	6,380	40,010	55,645	52,118	.94	2,997

## BOARD OF EDUCATION.

## ESSEX COUNTY — CONTINUED.

TOWNS AND CITIES.	TEACHERS AND TEACHERS' WAGES.				LENGTH OF SCHOOLING.		HIGH SCHOOLS.									
	NUMBER OF TEACHERS REQUIRED BY THE PUBLIC SCHOOLS.		NUMBER OF TEACHERS WHO HAVE GRADUATED FROM COLLEGE.		No. of teachers who have graduated from normal schools.	Average wages per month of male teachers.	Average wages per month of female teachers.	Aggregate of months all the public schools have been kept during the school year.	Average number of months public schools have been kept during the year.	No. of high schools.	No. of teachers.	No. of pupils.	No. of pupils admitted to the freshman class.	No. of graduates.	Length of schooling.	Expenditures for high school support.
	Men.	Women.	In high schools.	In elementary schools.												
Amesbury, . . . . .	2	31	10	—	10	\$125 00	\$51 48	191-16	9-3	1	11	278	88	37	9-11	\$11,159 03
Andover, . . . . .	2	39	6	—	23	142 10	57 62	321-5	9-4	1	7	118	43	21	9-8	8,795 42
Beverly, . . . . .	10	103	23	5	67	126 00	62 01	760	10	1	26	598	167	66	10	35,456 32
Boxford, . . . . .	—	8	—	—	2	—	41 33	54-3	9-1	1	1	17	10	1	8-5	1,300 00
Danvers, . . . . .	4	42	6	3	24	122 50	51 64	332-7	9-3	1	9	256	92	35	9-6	9,717 75
Essex, . . . . .	1	10	4	—	3	90 00	42 35	71-5	8-18	1	4	77	20	4	9-15	3,225 50
Georgetown, . . . . .	—	8	—	—	8	—	46 00	69-2	8-12	1	4	75	34	15	9-13	5,472 20
Gloucester, . . . . .	7	130	14	2	24	154 00	52 50	1,090-10	9-13	1	17	478	194	60	9-13	17,700 00
Groveland, . . . . .	1	12	2	—	9	93 75	43 93	103-6	8-12	1	3	98	25	10	9-10	2,817 50
Hamilton, . . . . .	1	10	1	—	6	100 00	47 25	94-1	9-8	1	2	26	11	—	9-17	1,725 00
Haverhill, . . . . .	11	184	14	1	68	154 97	68 46	1,406	9-15	1	24	681	250	120	9-15	30,550 00
Ipswich, . . . . .	2	25	4	1	7	150 00	42 48	210	10	1	5	113	56	7	10	3,701 00
Lawrence, . . . . .	19	270	21	5	121	157 24	64 67	1,896-5	9-5	1	28	749	247	109	10	37,710 79
Lynn, . . . . .	23	281	34	12	122	173 75	68 95	2,280	9-10	2	43	1,150	389	161	9-10	73,142 22
Lynnfield, . . . . .	—	4	—	—	1	—	51 87	36-4	9-2	—	—	—	—	—	—	—
Manchester, . . . . .	2	14	5	1	9	112 50	68 80	113-19	9-10	1	5	89	20	5	9-17	5,681 00
Marblehead, . . . . .	3	39	3	—	20	131 82	60 98	265-7	9-10	1	7	157	50	22	10	5,937 27
Merrimac, . . . . .	1	11	3	2	3	120 00	43 86	80-12	8-19	1	3	69	27	12	9-12	3,175 00
Methuen, . . . . .	3	49	2	—	24	125 00	50 50	381-13	8-17	1	6	133	51	25	9-16	7,061 97
Middleton, . . . . .	—	4	—	—	3	—	52 00	39	9-15	—	—	—	—	—	—	—
Nahant, . . . . .	1	7	3	—	—	154 05	62 55	46-5	9-5	1	3	41	17	3	9-5	3,494 75



### SCHOOL RETURNS.

XXV

	7	12	19	41	759	\$146 34	\$60 07	13,142-5	29	286	7,169	2,491	967	9-11	\$375,684 86
Newbury, . . . . .	7	12	19	41	759	\$146 34	\$60 07	13,142-5	29	286	7,169	2,491	967	9-11	\$375,684 86
Newburyport, . . . . .	6	54	12	—	—	3	127 50	45 68	—	—	—	—	—	—	—
North Andover, . . . . .	2	29	5	—	—	17	91 73	48 22	9-4	1	13	396	154	9-8	11,488 21
Peabody, . . . . .	5	60	7	—	—	36	140 00	222-3	9-5	1	5	90	26	12	4,724 19
Rockport, . . . . .	25	2	—	—	—	11	100 00	456-13	9-10	1	13	343	91	37	15,047 00
Rowley, . . . . .	1	—	—	—	—	—	—	180-14	9	1	4	76	39	12	3,900 00
Salem, . . . . .	13	144	21	7	98	172 31	34 86	69-4	8-13	—	—	—	—	—	—
Salisbury, . . . . .	9	—	—	—	—	—	—	1,038-4	8-18	1	26	677	278	68	33,882 56
Saugus, . . . . .	1	41	5	1	17	170 00	52 44	78-15	8-15	—	—	—	—	—	—
Swampscott, . . . . .	2	29	—	—	15	115 00	63 52	351-12	9-5	1	5	158	41	31	6,665 00
Topsfield, . . . . .	1	5	2	—	—	1	90 00	218-6	9-10	1	7	162	52	22	8,466 00
Wenham, . . . . .	—	6	—	1	1	—	—	48	9-12	1	2	25	8	4	1,469 18
West Newbury, . . . . .	2	—	3	—	2	76 00	42 00	56-16	9-10	—	—	—	—	—	—
								79-17	8-17	1	3	39	11	10	2,200 00
Totals, . . . . .	127	1,705	219	41	759	\$146 34	\$60 07	13,142-5	29	286	7,169	2,491	967	9-11	\$375,684 86

Punchard Free School.

**Barker Free School.**

\* Perley Free School.

1

## ESSEX COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR THE SUPPORT OF PUBLIC SCHOOLS.							Total expenditure for the support of the seven preceding columns.	Amount included in the total expenditure as given in the preceding column, but derived from other sources than local taxation, such as aid from the State, voluntary contributions, income from local funds, etc.	Amount raised by local taxation and expended for the support of public schools, being the total expenditure for such support diminished by contributions from other sources than local taxation.
	Teachers' wages.	Conveyance of pupils.	Fuel and care of school premises.	School committee, including clerical aid and truant service.	Superintendent and assistants.	Text-books and school supplies.	School sundries.			
Amesbury.	\$18,849 95	\$634 75	\$3,819 11	\$117 50	\$1,137 00	\$1,870 14	\$1,100 50	\$27,528 95	—	\$27,528 95
Andover.	26,217 34	2,041 08	4,109 59	119 85	1,733 36	2,230 99	1,659 87	38,112 08	\$3,647 42	34,464 66
Beverly.	77,269 62	2,999 30	17,921 89	1,928 00	2,200 00	11,777 67	2,599 00	116,695 48	—	116,695 48
Boxford.	2,625 41	—	218 25	—	283 00	221 68	36 05	3,384 39	1,363 35	2,021 04
Danvers.	28,395 72	925 00	5,427 92	80 65	1,880 00	2,577 45	3,470 29	42,757 03	1,100 00	41,657 03
Essex.	5,248 00	498 00	996 23	70 00	502 50	706 29	156 70	8,177 72	1,976 83	6,200 89
Georgetown.	3,921 00	1,744 50	885 69	—	500 00	445 18	102 19	7,598 56	1,698 91	5,899 65
Gloucester.	78,380 88	2,000 00	18,258 13	1,360 00	2,300 00	6,079 90	2,211 97	110,590 88	1,875 24	110,590 88
Groveland.	6,527 38	—	1,763 04	155 50	600 00	1,065 76	230 53	10,342 21	8,548 24	8,466 97
Hamilton.	5,174 71	210 75	1,256 69	179 80	320 00	733 70	672 59	8,548 24	470 00	8,078 24
Haverhill.	132,687 34	1,662 00	24,680 15	1,568 35	2,500 00	7,832 38	4,910 63	175,840 85	1,439 30	174,401 55
Ipswich.	11,301 15	675 00	2,146 41	301 66	565 33	1,352 33	688 60	17,030 48	693 90	16,336 58
Lawrence.	213,532 40	—	33,465 43	4,162 50	3,500 00	12,749 75	8,093 98	275,504 06	901 34	275,504 06
Lynn.	235,290 74	388 25	36,821 33	5,500 00	4,500 00	18,324 44	12,423 65	313,248 41	2,067 90	312,347 07
Lynnfield.	3,223 19	200 00	665 97	25 00	200 00	166 06	24 50	4,504 72	—	2,436 82
Manchester.	14,631 26	990 00	2,667 27	—	1,000 00	1,679 00	1,699 72	22,667 25	—	22,667 25
Marblehead.	21,303 40	120 00	3,865 46	50 00	2,586 62	2,664 59	1,785 00	32,375 07	—	32,375 07
Merrimac.	5,816 99	450 00	1,139 76	100 00	576 00	594 72	797 61	9,475 08	1,472 19	8,002 89
Methuen.	27,901 22	—	6,761 84	41 00	1,299 96	2,581 38	1,695 18	40,280 58	1,638 46	38,642 12
Middleton.	3,075 00	1,235 50	621 25	105 00	320 00	310 19	96 19	5,763 13	2,760 91	3,002 22
Nabant.	5,834 16	—	1,394 10	25 00	225 00	615 90	620 96	8,715 12	—	8,715 12

Newbury, .	3,436 32	1,119 15	1,224 70	80 00	320 00	580 65	156 71	6,917 53	1,943 31	4,974 22
Newburyport, .	33,640 25	158 75	6,081 06	650 00	1,700 00	4,119 22	100 00	46,449 28	3,361 10	43,088 18
North Andover, .	18,171 67	150 00	4,537 09	200 00	900 00	1,933 21	518 04	26,460 01	1 59 80	26,400 21
Peabody, .	38,526 45	1,327 87	7,047 37	699 96	1,833 32	3,403 74	2,737 23	55,575 94	153 00	55,422 94
Rockport, .	11,436 50	-	2,390 00	50 00	1,200 00	1,372 00	574 65	17,023 15	-	17,023 15
Rowley, .	3,850 00	319 00	630 41	85 00	300 00	328 00	63 79	5,576 20	2,220 80	3,355 40
Salem, .	115,446 01	650 00	18,425 55	2,400 00	2,500 00	8,696 72	3,010 44	151,128 72	-	151,128 72
Salisbury, .	3,494 00	679 75	469 79	155 20	308 00	322 54	207 51	5,636 79	1,691 12	3,945 67
Saugus, .	24,552 83	62 53	6,520 82	150 00	1,500 00	2,379 15	1,135 12	36,300 45	578 50	35,721 95
Swampscott, .	20,222 00	60 00	4,895 92	975 00	1,000 00	3,936 60	2,069 97	33,159 49	-	33,159 49
Topsfield, .	2,982 00	532 00	220 75	40 00	155 00	276 90	35 67	4,242 32	993 80	3,248 52
Wenham, .	4,529 88	392 02	827 16	110 00	320 00	206 32	126 73	6,512 11	1,081 80	5,430 31
West Newbury, .	5,263 01	723 75	679 27	88 25	465 00	593 21	34 50	7,846 99	2,084 80	5,762 19
Totals, .	\$1,212,737 78	\$22,948 95	\$222,835 40	\$21,573 22	\$41,230 09	\$104,777 76	\$55,846 07	\$1,681,969 27	\$37,273 78	\$1,644,695 49

## ESSEX COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR SCHOOL BUILDINGS.			Total expenditure for school buildings being the total of the three preceding columns.	Amount included in the total expenditure for school buildings as given in the preceding column, but derived from other sources than local taxation.	Amount raised by local taxation and expended for school buildings.	Amount raised by local taxation and expended for support of the public schools and for all school purposes.	LOCAL FUNDS WHOSE INCOME MUST BE APPROPRIATED TO THE PUBLIC SCHOOLS.		Dog tax and other income voluntarily appropriated to the public schools.
	New schoolhouses.	Alterations and permanent repairs.	Ordinary repairs.					Principal.	Income.	
Amesbury, . . . . .	-	\$210 45	\$1,260 60	\$1,471 05	- \$5 57	\$1,471 05	\$29,000 00	-	-	-
Andover, . . . . .	-	870 03	2,193 03	3,063 06	-	3,057 49	37,522 15	\$74,454 28	\$3,528 08	\$481 23
Beverly, . . . . .	-	14,059 63	5,102 47	19,162 10	-	19,162 10	135,857 58	3,000 00	120 00	-
Boxford, . . . . .	-	-	92 78	92 78	-	92 78	2,113 82	3,400 00	126 30	-
Danvers, . . . . .	-	1,063 48	1,052 10	2,115 58	-	2,115 58	43,772 61	-	-	698 71
Essex, . . . . .	-	-	585 07	585 07	-	585 07	6,785 96	-	-	278 65
Georgetown, . . . . .	-	-	56 20	56 20	-	56 20	5,955 85	-	-	241 84
Gloucester, . . . . .	\$678 00	1,602 50	3,552 27	5,832 77	-	5,832 77	116,423 65	10,000 00	400 00	1,123 25
Groveland, . . . . .	-	-	750 19	750 19	-	750 19	9,217 16	-	-	-
Hamilton, . . . . .	-	-	181 31	181 31	-	181 31	8,259 55	-	-	310 89
Haverhill, . . . . .	155,447 59	2,901 32	4,713 34	163,062 25	-	163,062 25	337,463 80	6,020 00	258 00	-
Ipswich, . . . . .	-	1,920 00	748 73	2,668 73	-	2,668 73	19,005 31	-	-	313 52
Lawrence, . . . . .	-	1,878 86	22,897 79	24,776 65	-	24,776 65	300,280 71	-	-	-
Lynn, . . . . .	97,289 33	8,233 63	11,491 31	117,014 27	-	117,014 27	429,361 34	-	-	-
Lynnfield, . . . . .	-	62 50	82 72	145 22	-	145 22	2,582 04	-	-	-
Manchester, . . . . .	-	3,000 00	225 00	3,225 00	-	3,225 00	25,892 25	-	-	-
Marblehead, . . . . .	-	2,351 04	241 98	2,593 02	-	2,593 02	34,968 09	-	-	-
Merrimac, . . . . .	-	448 60	541 96	990 56	-	990 56	8,993 45	-	-	-
Methuen, . . . . .	-	3,494 80	2,102 28	5,597 08	-	5,597 08	44,239 20	-	-	873 21
Middleton, . . . . .	-	396 45	215 21	611 66	-	611 66	3,613 88	-	-	130 45
Nahant, . . . . .	-	-	129 35	129 35	-	129 35	8,844 47	-	-	-

Newbury, . . . . .	-	141 05	141 05	-	141 05	5,115 27	-	-	234 24
Newburyport, . . . . .	-	1,756 97	2,107 02	-	2,107 02	45,195 20	675 00	-	-
North Andover, . . . . .	-	1,486 73	1,486 73	114 84	1,371 89	27,772 10	161 20	-	-
Peabody, . . . . .	-	2,751 28	3,173 47	-	3,173 47	58,596 41	-	-	1,204 78
Rockport, . . . . .	-	526 46	1,936 85	-	1,936 85	18,960 00	-	-	-
Rowley, . . . . .	-	37 88	93 46	-	93 46	3,448 86	-	-	-
Salem, . . . . .	365,000 00	5,622 06	370,982 06	-	370,982 06	522,110 78	217 00	1,708 67	-
Salisbury, . . . . .	-	301 27	301 27	-	301 27	4,246 94	-	-	-
Saugus, . . . . .	-	1,765 42	2,796 67	-	2,796 67	38,518 62	-	-	-
Swampscott, . . . . .	-	871 59	1,846 59	-	1,846 59	33,006 08	-	-	171 87
Topsfield, . . . . .	-	160 93	160 93	-	160 93	3,409 45	-	-	206 20
Wenham, . . . . .	-	419 60	691 50	-	691 50	6,121 81	-	-	-
West Newbury, . . . . .	8,135 65	168 87	8,304 52	-	8,304 52	14,066 71	-	-	-
Totals, . . . . .	\$626,550 57	\$74,225 80	\$748,146 02	\$120 41	\$748,025 61	\$2,392,721 10	\$5,485 58	\$121,549 28	\$7,977 51

BOARD OF EDUCATION.

ESSEX COUNTY -- CONCLUDED.

TOWNS AND CITIES.	Town's share of school fund income paid Jan. 25, 1910.	Amount of voluntary contributions expended on the public schools but not included in expenditures by the town or city.	ACADEMIES AND PRIVATE SCHOOLS.				ESTIMATED AMOUNT OF TUITION PAID IN —		FUNDS WHOSE INCOME MUST BE APPROPRIATED TO ACADEMIES OR PRIVATE SCHOOLS.	
			No. of academies.	No. of different academy pupils attending during the year.	No. of private schools.	No. of different private school pupils attending during the year.	Academies.	Private schools.	Principal.	Income.
Amesbury.	-	\$181 75	2	591	2	737	\$71,007 61	-	\$940,973 00	\$37,375 80
Andover.	-	500 00	-	-	1	8	-	-	-	-
Beverly.	-	-	-	-	2	29	-	\$325 00	-	-
Boxford.	\$883 35	-	-	-	-	-	-	-	20,000 00	-
Danvers.	-	121 00	-	15	-	-	-	-	-	-
Essex.	-	-	-	-	-	-	-	-	-	-
Georgetown.	883 35	-	-	-	-	-	-	-	-	-
Gloucester.	883 35	-	-	-	-	223	-	-	-	-
Groveland.	-	-	-	-	2	-	-	1,800 00	-	-
Hamilton.	-	-	-	-	-	-	-	-	-	-
Haverhill.	-	-	1	123	7	1,922	12,600 00	-	300,000 00	-
Ipswich.	-	-	-	-	-	-	-	-	-	-
Lawrence.	-	-	-	-	8	4,356	-	-	-	-
Lynn.	-	-	-	-	6	3,292	-	-	-	-
Lynnfield.	788 90	-	-	-	-	-	-	-	-	-
Manchester.	-	-	-	-	-	-	-	-	-	-
Marblehead.	-	-	-	-	-	-	-	-	-	-
Merrimac.	883 35	-	-	-	1	22	-	-	-	-
Methuen.	-	-	-	-	1	87	-	-	-	-
Middleton.	1,277 80	-	-	-	-	-	-	8,500 00	-	-
Nahant.	-	-	-	-	-	-	-	700 00	-	-

### SCHOOL RETURNS.

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[illegible]

## FRANKLIN COUNTY.

TOWNS AND CITIES.	Population — State Census of 1905.	Valuation — May 1, 1909.	No. of public schools.	SCHOOL CENSUS DATA SEPT. 1, 1909.		SCHOOL MEMBERSHIP, ATTENDANCE AND GRADUATION DATA FOR THE SCHOOL YEAR.							
				No. of persons in towns be- tween 5 and 15 years of age.	No. of persons in towns be- tween 7 and 14 years of age.	No. of different pupils of all ages in the public schools during the school year.	No. of different pupils with- in the year under 5 years of age.	No. of different pupils with- in the year over 15 years of age.	No. of different pupils with- in the year between 7 and 14 years of age.	Average membership of all the schools.	Average attendance of all the schools.	Percentage of attendance mem- bership based on average mem- bership.	No. graduated from gram- mar schools.
Ashfield, . . . . .	959	\$617,288	11	156	108	207	—	47	118	178	171	.95	12
Barnardston, . . . . .	769	440,639	5	116	81	136	—	26	94	120	113	.90	9
Buckland, . . . . .	1,500	711,172	9	220	157	223	—	4	161	201	189	.94	14
Charlemont, . . . . .	1,002	521,408	10	171	118	205	1	32	137	186	172	.93	9
Colrain, . . . . .	1,780	675,319	15	302	246	326	—	9	238	279	256	.92	5
Conway, . . . . .	1,340	704,959	11	212	175	238	3	20	164	210	198	.94	8
Deerfield, . . . . .	2,112	1,795,140	14	418	315	353	1	7	274	315	287	.91	20
Erving, . . . . .	1,094	973,515	8	187	140	202	1	7	140	185	174	.94	10
Gill, . . . . .	1,023	471,701	6	164	123	138	2	1	101	129	122	.94	15
Greenfield, . . . . .	9,156	9,634,431	45	1,624	1,136	1,848	21	241	1,075	1,692	1,600	.94	124
Hawley, . . . . .	448	158,022	7	95	69	94	—	—	76	79	74	.93	3
Heath, . . . . .	356	172,672	3	46	37	43	—	1	37	37	35	.96	—
Leverett, . . . . .	703	316,830	5	136	98	144	—	3	107	129	118	.91	1
Leyden, . . . . .	408	165,560	4	67	50	77	1	2	58	60	54	.90	5
Monroe, . . . . .	269	168,586	4	50	40	68	—	4	48	52	49	.93	8
Montague, . . . . .	7,015	4,233,469	32	1,211	925	1,228	25	133	806	1,136	1,072	.94	64
New Salem, . . . . .	672	360,740	6	88	60	140	—	34	76	113	99	.88	7
Northfield, . . . . .	2,017	1,353,313	9	268	201	322	1	41	233	282	259	.92	18
Orange, . . . . .	5,578	3,612,985	24	890	641	1,128	1	178	681	999	943	.94	65
Rowe, . . . . .	533	195,089	5	100	84	94	3	2	27	38	78	.94	4
Shelburne, . . . . .	1,515	1,275,847	9	211	157	205	1	3	163	197	187	.95	16
Shutesbury, . . . . .	374	258,929	2	42	28	40	—	4	28	34	31	.91	1



## HAMPDEN COUNTY.

Sunderland,	.	910	494,521	5	156	105	143	-	2	102	134	125	.93	6
Warwick,	.	527	428,481	4	135	108	140	1	3	94	113	102	.90	5
Wendell,	.	6	263,805	59	95	75	75	2	1	62	62	59	.95	5
Whately,	.	822	456,631	5	121	84	99	-	2	72	92	83	.89	1
Totals,	.	43,362	\$30,461,052	264	7,281	5,345	7,916	63	807	5,172	7,052	6,650	.94	435

Agawam,	.	2,795	\$1,839,840	14	562	426	488	6	18	358	444	406	.91	20
Blandford,	.	746	534,301	8	105	87	111	2	1	90	93	82	.88	1
Brinfield,	.	894	559,840	6	153	123	167	-	18	114	155	144	.93	7
Chester,	.	1,366	713,861	11	287	222	325	2	25	230	271	245	.90	18
Chicopee,	.	20,191	12,620,980	78	3,846	2,886	3,084	80	211	2,027	2,815	2,573	.91	91
East Longmeadow,	.	1,327	715,065	10	346	245	376	2	10	267	335	307	.91	17
Granville,	.	865	468,678	8	157	127	185	-	6	124	142	129	.90	3
Hampden,	.	561	381,465	6	102	83	154	2	1	120	115	105	.91	5
Holland,	.	151	99,734	1	17	13	11	-	-	13	14	13	.90	1
Holyoke,	.	49,934	47,390,680	163	11,209	8,905	6,949	389	723	4,361	6,199	5,746	.93	296
Longmeadow,	.	964	1,330,470	5	193	135	156	-	8	176	131	120	.91	6
Ludlow,	.	3,881	3,972,379	26	822	645	884	3	54	681	746	686	.92	9
Monson,	.	4,344	1,821,143	13	660	471	726	-	82	512	655	614	.93	28
Montgomery,	.	259	170,758	4	36	22	38	2	-	27	33	29	.88	-
Palmer,	.	7,755	4,177,916	33	1,526	1,026	1,383	5	106	1,069	1,193	1,130	.95	55
Russell,	.	1,053	736,428	9	166	156	187	3	9	149	155	140	.90	2
Southwick,	.	1,048	690,830	9	160	117	166	3	3	139	144	130	.91	15
Springfield,	.	73,540	107,875,780	311	13,209	9,224	14,968	927	1,706	8,324	12,808	11,878	.93	586
Tolland,	.	274	201,138	1	30	22	27	-	3	25	20	16	.79	-
Wales,	.	645	285,712	3	60	51	80	-	-	72	68	62	.91	5
Westfield,	.	13,611	9,227,723	58	2,655	1,809	2,477	94	224	1,532	2,270	2,090	.92	167
West Springfield,	.	8,101	6,865,278	45	1,753	1,241	1,964	78	219	1,667	1,669	1,542	.92	64
Wilbraham,	.	1,708	1,094,875	12	243	172	255	1	7	206	222	206	.93	9
Totals,	.	196,013	\$203,774,874	834	38,297	28,208	35,161	1,599	3,434	22,283	30,697	28,393	.92	1,105

## FRANKLIN COUNTY — CONTINUED.

TOWNS AND CITIES.	TEACHERS AND TEACHERS' WAGES.				LENGTH OF SCHOOLING.				HIGH SCHOOLS.							
	NUMBER OF TEACHERS REQUIRED BY THE PUBLIC SCHOOLS.		NUMBER OF TEACHERS WHO HAVE GRADUATED FROM COLLEGE.		No. of teachers who have graduated from normal schools.	Average wages per month of male teachers.	Average wages per month of female teachers.	Aggregate of months all the public schools have been kept during the school year.	Average number of months public schools have been kept during the year.	No. of high schools.	No. of teachers.	No. of pupils.	No. of pupils admitted to the freshman class.	No. of graduates.	Length of schooling.	Expenditures for high school support.
	Men.	Women.	In high schools.	In elementary schools.												
Ashfield.	1	12	3	1	3	\$100 00	\$32 78	93-18.	8-10	1	3	58	22	7	9-18	\$2,583 73
Barnardston.	1	9	2	—	2	52 00	40 47	46	9-4	1	2	39	9	5	10	1,677 64
Buckland.	—	9	—	—	4	—	43 56	80-2	8-18	—	—	—	—	—	—	—
Charlemont.	1	9	3	—	—	90 00	38 35	73-15	8-4	1	2	47	15	3	9-15	1,725 00
Colrain.	—	15	—	—	2	—	34 40	133-11	8-18	—	—	—	—	—	—	—
Conway.	—	12	2	—	4	—	33 83	92	8-7	1	2	26	6	7	10	1,385 50
Deerfield.	—	14	3	1	9	—	39 12	122-10	8-15	1	6	73	20	14	9-5	5,366 47
Erving.	—	8	—	—	4	—	41 20	70-10	8-16	—	—	—	—	—	—	—
Gill.	—	6	—	1	1	—	42 66	54	9	—	—	—	—	—	—	—
Greenfield.	4	53	8	2	28	137 50	47 02	423	9-8	1	7	226	73	25	9-10	9,095 90
Hawley.	—	7	—	—	—	—	36 40	57	8-1	—	—	—	—	—	—	—
Heath.	—	3	—	—	1	—	40 00	25-10	8-10	—	—	—	—	—	—	—
Leverett.	—	5	—	—	1	—	41 33	44-8	8-18	—	—	—	—	—	—	—
Leyden.	—	4	—	—	—	—	40 00	34	8-10	—	—	—	—	—	—	—
Monroe.	—	4	—	—	—	—	38 00	36	9	—	—	—	—	—	—	—
Montague.	2	37	5	—	20	110 00	50 43	289-14	9-1	2	6	160	41	15	9-15	6,703 30
New Salem.	1	7	—	—	1	85 00	40 62	50	8-7	1	3	43	12	4	10	2,250 00
Northfield.	—	11	1	—	2	—	49 00	81-9	9-1	1	3	60	24	10	9-18	2,318 00
Orange.	1	29	7	—	13	166 00	45 47	214-14	8-18	1	7	199	65	36	9-18	6,837 89
Rowe.	—	5	—	—	—	—	38 98	40	8	—	—	—	—	—	—	—
Shelburne.	1	14	5	1	3	140 00	46 00	80-2	8-18	1	6	149	39	22	9-14	5,527 27
Shutesbury.	—	2	—	—	—	—	41 34	17-9	8-14	—	—	—	—	—	—	—



## FRANKLIN COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR THE SUPPORT OF PUBLIC SCHOOLS.							Total expenditure for the support of public schools, being the total of the seven preceding columns.	Amount included in the total expenditure as given in the preceding column, but derived from other sources than local taxation, such as aid from the State, voluntary contributions, income from local funds, etc.	Amount raised by local taxation and expended for the support of public schools, being the total expenditure for such support diminished by contributions from other sources than local taxation.
	Teachers' wages.	Conveyance of pupils.	Fuel and care of school premises.	School committee, including clerical aid and truant service.	Superintendent and assistants.	Text-books and school supplies.	School sundries.			
Ashfield.	\$4,531 50	\$185 05	\$579 36	\$33 65	\$608 95	\$443 36	\$31 50	\$6,413 37	\$2,989 37	\$3,424 00
Barnardston.	3,033 50	853 50	361 82	63 00	325 40	392 48	83 96	5,113 66	2,819 73	2,293 93
Buckland.	5,438 38	236 55	804 52	—	450 00	168 84	66 31	7,184 60	3,152 35	4,032 25
Charlmont.	3,997 50	527 97	605 83	80 00	427 58	348 72	234 95	6,222 55	3,197 46	3,025 09
Colrain.	4,696 50	540 53	444 52	163 00	600 00	539 77	137 53	7,121 85	2,880 91	4,240 94
Conway.	3,929 70	750 05	848 70	75 00	507 56	416 09	141 13	6,668 23	2,141 18	4,527 05
Deerfield.	6,836 16	1,259 00	929 10	121 01	670 38	432 38	338 20	10,586 23	1,512 44	9,073 79
Erving.	3,803 02	534 70	944 85	40 00	571 43	254 11	87 99	6,236 10	1,961 90	4,274 20
Gill.	2,644 25	369 00	253 05	45 00	352 00	180 48	52 94	3,896 72	1,955 35	1,941 37
Greenfield.	31,375 00	1,989 22	5,989 94	170 00	2,000 00	2,524 73	2,731 27	46,783 16	758 77	46,024 39
Hawley.	2,168 60	10 00	112 32	44 65	329 41	172 23	94 54	2,931 75	1,812 52	1,119 23
Heath.	1,265 00	822 75	63 41	38 45	141 18	81 60	48 80	2,461 19	1,632 27	828 92
Leverett.	2,656 75	902 87	156 25	63 75	375 00	116 25	79 89	4,350 76	2,085 45	2,265 31
Leydon.	1,475 23	—	68 75	37 00	352 00	91 16	77 36	2,101 50	1,186 37	915 13
Monroe.	1,453 00	40 00	58 75	15 00	204 59	47 10	103 21	1,921 65	1,263 73	657 92
Montague.	20,287 90	2,814 25	5,516 64	38 00	1,800 00	2,175 02	1,459 98	34,091 79	1,911 50	32,180 29
New Salem.	3,626 90	524 30	352 58	—	552 63	553 97	15 00	3,625 38	2,915 33	2,710 05
Northfield.	5,351 50	687 00	671 80	5 50	696 00	538 13	211 91	8,161 84	2,915 33	5,924 55
Orange.	15,301 02	2,889 50	3,664 06	50 00	1,700 00	2,603 65	586 03	26,794 26	—	26,794 26
Rowe.	1,846 25	370 50	108 58	55 00	235 28	227 57	30 00	2,873 18	1,784 67	1,088 51
Shelburne.	6,094 58	351 80	770 81	—	450 00	304 49	220 18	8,191 86	2,326 70	5,865 16
Shutesbury.	944 38	269 60	45 33	50 00	147 62	52 71	22 14	1,531 78	971 43	560 35

## SCHOOL RETURNS.

xxxvii

## HAMPDEN COUNTY — CONTINUED.

Sunderland, . . .	3,076 00	1,748 15	603 26	50 00	330 83	222 42	82 12	6,112 78	2,445 60	3,667 18
Warwick, . . .	2,051 00	1,883 40	310 31	—	352 00	212 74	67 71	4,877 16	2,148 75	2,728 41
Wendell, . . .	2,007 37	403 25	92 46	20 00	214 28	84 57	30 84	2,852 77	1,762 14	1,090 63
Whately, . . .	2,024 40	590 00	210 17	115 00	177 90	99 60	84 12	4,201 19	2,386 68	1,814 51
Totals, . . .	\$112,835 39	\$21,552 94	\$24,567 17	\$1,373 01	\$14,572 02	\$13,284 17	\$7,122 61	\$225,307 31	\$52,239 89	\$173,067 42

Agawam, . . .	\$8,131 20	\$503 40	\$1,421 18	\$156 00	\$631 56	\$672 19	\$145 85	\$11,661 38	\$1,421 71	\$10,239 67
Blandford, . . .	2,705 00	207 00	91 25	63 14	399 58	74 07	39 99	3,580 03	2,319 35	1,260 68
Brimfield, . . .	1,814 00	996 00	237 30	76 55	450 00	337 68	45 16	3,976 78	1,642 81	2,333 97
Chester, . . .	5,267 25	47 10	897 66	40 00	724 73	574 32	462 74	8,013 80	3,329 80	4,684 00
Chicopee, . . .	56,093 98	2,033 50	13,162 64	463 80	2,145 80	4,890 10	2,677 36	81,487 18	128 50	81,358 68
East Longmeadow, . . .	6,708 30	—	928 93	148 15	484 92	262 90	109 32	8,642 52	4,140 42	4,502 10
Granville, . . .	2,426 50	528 20	172 20	28 00	450 00	187 71	171 78	3,964 39	1,844 60	2,119 79
Hampden, . . .	2,428 70	146 00	294 72	109 50	315 71	294 72	66 10	3,655 45	2,223 13	1,432 32
Holland, . . .	529 89	186 67	37 20	39 50	96 67	15 82	18 00	923 75	611 08	312 67
Holyoke, . . .	178,106 77	892 80	28,716 62	5,050 00	3,000 00	11,564 19	13,648 44	240,978 82	—	240,978 82
Longmeadow, . . .	5,799 00	295 00	564 96	—	242 40	207 31	209 75	7,318 42	2,520 31	4,798 11
Ludlow, . . .	15,406 55	2,298 05	3,829 05	352 00	1,068 48	1,039 48	645 25	24,638 86	1,632 08	23,006 78
Monson, . . .	13,164 98	87 00	1,224 41	167 25	1,050 00	1,015 58	208 04	16,917 86	2,588 80	14,329 06
Montgomery, . . .	1,346 00	220 00	71 70	12 00	193 71	29 10	7 00	1,879 51	1,226 68	652 83
Palmer, . . .	19,542 34	1,576 00	2,450 70	234 15	2,000 00	1,504 09	1,493 26	28,800 54	680 95	28,119 59
Russell, . . .	3,518 00	305 00	507 50	50 00	438 30	202 37	12 85	5,034 02	1,959 87	3,074 15
Southwick, . . .	4,440 50	70 00	419 15	79 50	525 00	131 81	60 00	5,725 96	2,184 92	3,541 04
Springfield, . . .	363,525 28	938 50	78,536 76	8,219 50	6,400 00	41,875 72	10,197 54	509,693 30	10,982 11	498,711 19
Tolland, . . .	469 50	676 65	26 33	41 50	150 00	21 35	5 00	1,390 33	700 00	690 33
Wales, . . .	1,334 28	724 00	90 00	—	227 50	34 07	25 61	2,435 46	1,593 00	842 46
Westfield, . . .	45,685 21	2,572 00	8,500 45	193 28	2,503 53	7,459 58	2,607 21	69,521 26	8,074 36	61,446 90
West Springfield, . . .	27,231 63	300 00	6,683 48	22 25	1,800 00	1,982 56	576 17	38,596 09	2,404 03	36,132 06
Wilbraham, . . .	6,434 30	68 60	1,019 15	82 50	596 45	919 41	135 00	9,255 41	2,227 84	7,027 57
Totals, . . .	\$772,109 16	\$15,691 47	\$149,883 43	\$15,628 57	\$25,894 34	\$75,336 13	\$33,568 02	\$1,088,111 12	\$56,496 35	\$1,031,614 77

## FRANKLIN COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR SCHOOL BUILDINGS.			Total expenditure for school buildings being the total of the three preceding columns.	Amount included in the total expenditure for school buildings as given in the preceding column, but derived from other sources than local taxation	Amount raised by local taxation and expended for school buildings.	Amount raised by local taxation and expended for support of the public schools, that is, for all school purposes.	LOCAL FUNDS WHOSE INCOME MUST BE APPROPRIATED TO THE PUBLIC SCHOOLS.		Dog tax and other income voluntarily appropriated to the public schools.
	New schoolhouses.	Alterations and permanent repairs.	Ordinary repairs.					Principal.	Income.	
Ashfield, . . . . .	—	—	\$4 85	\$4 85	—	\$4 85	\$3,428 85	—	—	\$491 76
Barnardston, . . . . .	—	—	37 76	37 76	—	37 76	2,331 69	\$13,500 00	\$501 60	26 36
Buckland, . . . . .	—	—	205 30	205 30	—	205 30	4,237 55	—	—	56 36
Charlemont, . . . . .	—	—	28 52	28 52	—	28 52	3,053 61	3,600 00	123 50	51 88
Colrain, . . . . .	\$3,922 61	—	57 18	3,979 79	\$1,600 00	2,379 79	6,620 73	—	150 00	55 91
Conway, . . . . .	—	—	37 51	37 51	—	37 51	4,564 56	1,000 00	40 20	86 28
Deerfield, . . . . .	—	—	375 75	375 75	—	375 75	9,449 54	—	—	78 44
Erving, . . . . .	—	\$51 35	235 85	287 20	—	287 20	4,561 40	—	—	51 88
Gill, . . . . .	—	—	153 63	153 63	150 00	3 63	1,945 00	—	—	—
Greenfield, . . . . .	—	—	2,489 12	2,489 12	—	2,489 12	48,513 51	450 00	11 46	43 42
Hawley, . . . . .	—	122 82	—	122 82	—	122 82	1,242 05	—	—	29 00
Heath, . . . . .	—	—	45 96	45 96	—	45 96	874 88	—	—	—
Leverett, . . . . .	—	—	39 08	39 08	—	39 08	2,304 39	—	—	—
Leyden, . . . . .	—	132 74	97 92	230 66	—	80 66	995 79	—	150 00	—
Monroe, . . . . .	—	—	113 75	113 75	150 00	113 75	771 67	—	—	—
Montague, . . . . .	—	735 69	1,313 91	2,049 60	—	2,049 60	34,229 89	—	—	—
New Salem, . . . . .	—	—	92 47	92 47	—	92 47	2,802 52	—	—	37 48
Northfield, . . . . .	—	—	60 67	60 67	—	60 67	5,985 22	2,000 00	60 00	124 00
Orange, . . . . .	—	—	478 16	478 16	—	478 16	27,272 42	—	—	—
Rowe, . . . . .	—	90 00	169 30	259 30	—	259 30	1,347 81	200 00	7 65	36 17
Shelburne, . . . . .	—	—	240 47	240 47	—	240 47	6,105 63	14,000 00	500 00	46 76
Shutesbury, . . . . .	—	—	71 34	71 34	32 04	39 30	599 65	—	—	32 04

## HAMPDEN COUNTY — CONTINUED.

Sunderland,	.	.	52 54	19 99	72 53	—	72 53	3,739 71	—	—	—
Warwick,	.	—	335 79	36 10	371 89	—	371 89	3,100 30	500 00	20 20	—
Wendell,	.	—	—	165 70	165 70	—	165 70	1,256 33	1,340 00	110 02	—
Whately,	.	7,222 60	45 00	45 57	7,313 17	—	7,313 17	9,127 68	—	—	—
Totals,	.	\$11,145 21	\$1,565 93	\$6,615 86	\$19,327 00	\$1,932 04	\$17,394 96	\$190,462 38	\$36,590 00	\$1,674 63	\$1,247 74

Agawam,	.	—	\$380 58	\$97 91	\$478 49	—	\$478 49	\$10,718 16	\$4,935 68	\$220 40	—
Blandford,	.	—	—	166 00	166 00	—	166 00	1,426 68	—	—	\$112 59
Brimfield,	.	—	5,325 68	188 45	5,514 13	—	5,514 13	7,848 10	441 74	—	—
Chester,	.	\$6,336 88	173 00	189 30	6,699 18	—	6,699 18	11,383 18	—	—	125 05
Chicopee,	.	—	20,182 20	6,160 08	26,342 28	—	26,342 28	107,700 96	—	—	—
East Longmeadow,	.	—	13,527 01	386 46	13,913 47	—	13,913 47	18,415 57	731 00	29 52	184 14
Granville,	.	—	—	83 40	83 40	—	83 40	2,203 19	—	—	—
Hampden,	.	—	12 50	29 05	41 55	—	41 55	1,473 87	—	—	112 25
Holland,	.	—	—	—	—	—	—	312 67	—	—	—
Holyoke,	.	7,748 38	5,179 53	12,659 33	25,587 24	—	25,587 24	266,566 06	—	—	2,665 64
Longmeadow,	.	—	—	12 40	12 40	—	12 40	4,810 51	—	—	—
Ludlow,	.	20,235 27	518 16	359 08	21,112 51	—	21,112 51	44,139 29	—	—	149 55
Monson,	.	—	146 25	820 47	966 72	—	966 72	15,295 78	—	—	462 81
Montgomery,	.	—	—	41 48	41 48	—	41 48	694 31	—	—	61 05
Palmer,	.	17,000 00	181 57	977 34	18,158 91	—	18,158 91	46,278 50	—	—	595 21
Russell,	.	—	—	348 65	348 65	—	348 65	3,422 80	—	—	81 23
Southwick,	.	—	—	172 03	172 03	—	172 03	3,713 07	—	—	—
Springfield,	.	46,449 47	10,896 95	15,528 38	72,874 80	—	72,874 80	571,585 99	15,618 03	766 92	150 66
Tolland,	.	—	13 81	—	13 81	—	13 81	704 14	—	—	4 14
Wales,	.	—	—	1 00	1 00	—	1 00	813 46	—	—	—
Westfield,	.	—	—	3,587 25	3,587 25	—	3,587 25	65,034 15	—	—	—
West Springfield,	.	10,500 00	3,880 41	850 19	15,230 60	—	15,230 60	51,362 66	14,340 00	784 82	—
Wilbraham,	.	—	—	407 30	407 30	—	407 30	7,434 87	1,308 40	78 50	210 23
Totals,	.	\$108,270 00	\$60,417 65	\$43,065 55	\$211,753 20	—	\$211,753 20	\$1,243,367 97	\$37,374 85	\$1,880 16	\$4,914 55





### SCHOOL RETURNS.

[illegible]

## HAMPDEN COUNTY — CONCLUDED.

Agawam,	\$883 35	\$166 25	—	—	2	96	—	\$650 00	—	—
Blandford,	1,233 35	—	—	—	—	—	—	—	—	—
Brimfield,	886 08	41 20	1	90	—	—	—	—	\$89,916 93	\$5,057 98
Chester,	1,277 81	—	—	—	—	—	—	—	—	—
Chicopee,	—	—	1	39	4	1,452	—	—	—	—
East Longmeadow,	1,277 80	45 00	—	—	—	—	—	—	—	—
Granville,	1,233 35	—	—	—	—	—	—	—	—	—
Hampden,	1,233 35	—	—	—	—	—	—	—	—	—
Holland,	1,127 80	—	—	—	—	—	—	—	—	—
Holyoke,	—	346 00	—	—	11	5,161	—	4,200 00	—	—
Longmeadow,	883 35	—	—	—	1	26	—	—	—	—
Ludlow,	—	20 00	—	—	1	24	—	—	—	—
Monson,	1,127 80	230 00	1	121	—	—	\$3,917 00	—	105,920 00	5,031 51
Montgomery,	1,086 68	—	—	—	—	—	—	—	—	—
Palmer,	—	—	—	—	—	—	—	—	—	—
Russell,	1,277 80	—	—	—	—	—	—	—	—	—
Southwick,	736 68	—	—	—	—	—	—	—	—	—
Springfield,	—	3,317 69	—	—	9	2,081	—	—	—	—
Tolland,	575 00	—	—	—	—	—	—	—	—	—
Wales,	1,233 35	—	—	—	—	—	—	—	—	—
Westfield,	—	—	—	—	1	372	—	—	—	—
West Springfield,	—	—	—	—	—	—	—	—	—	—
Wilbraham,	1,127 80	140 00	1	180	—	—	38,000 00	—	60,000 00	—
Totals,	\$17,201 95	\$4,306 14	4	430	29	9,212	\$41,917 00	\$4,850 00	\$255,836 93	\$10,089 49

United with high school.

## HAMPSHIRE COUNTY.

TOWNS AND CITIES.	Population — State Census of 1905.	Valuation — May 1, 1909.	No. of public schools.	School Census Data SEPT. 1, 1909.		SCHOOL MEMBERSHIP, ATTENDANCE AND GRADUATION DATA FOR THE SCHOOL YEAR.						
				No. of persons in towns between 5 and 15 years of age.	No. of persons in towns between 15 and 14 years of age.	No. of different pupils with- in the year under 5 years of age.	No. of different pupils with- in the year over 15 years of age.	No. of different pupils with- in the year between 7 and 14 years of age.	Average membership of all the schools.	Average attendance of all the schools.	Percentage of attendance mem- bership.	No. graduated from gram- mar schools.
Anherst,	5,313	\$3,778,379	20	864	621	3	145	639	882	821	.93	49
Belcher town,	2,088	916,195	17	377	279	—	58	300	361	335	.93	14
Chesterfield,	563	315,640	5	101	69	—	7	69	79	78	.98	—
Cumington,	740	333,550	8	134	106	—	5	106	124	120	.97	10
Easthampton,	6,808	5,090,444	25	1,279	1,050	2	61	791	1,034	960	.93	46
Enfield,	973	677,870	7	161	130	—	—	130	153	144	.94	12
Goshen,	277	181,685	4	64	48	1	—	54	52	48	.92	4
Granby,	747	506,046	5	129	94	—	11	100	119	109	.91	12
Greenwich,	475	246,532	2	82	61	—	2	51	53	49	.92	7
Hadley,	1,895	1,346,534	12	316	272	—	36	223	306	290	.95	18
Hatfield,	1,779	1,326,842	10	260	186	—	4	212	256	234	.92	8
Huntington,	1,451	632,725	10	272	193	1	48	223	301	263	.88	19
Middlefield,	399	186,809	7	77	59	1	1	93	97	39	.92	2
Northampton,	19,957	14,216,355	78	3,344	2,261	94	319	1,914	2,697	2,511	.92	96
Pelham,	460	279,983	4	100	79	1	1	81	75	68	.91	2
Plainfield,	382	175,624	5	57	47	—	4	49	57	52	.93	5
Prescott,	322	187,599	4	70	57	—	7	55	59	55	.93	4

Southampton,	927	496,966	8	142	121	152	3	3	116	135	122	.90	6
South Hadley,	5,054	2,790,011	24	802	615	1,023	26	83	680	884	823	.93	39
Ware, .	8,594	4,688,771	29	1,617	1,291	1,221	19	113	809	1,110	1,039	.94	51
Westhampton,	466	235,895	6	89	74	109	1	1	84	85	78	.91	4
Williamsburg,	1,943	982,798	14	389	324	477	3	27	354	389	351	.90	15
Worthington, .	614	352,878	6	103	80	116	-	7	72	93	86	.92	3
Totals, .	62,227	\$40,546,131	310	10,889	8,117	10,553	155	943	7,205	9,401	8,675	.92	426

## HAMPSHIRE COUNTY — CONTINUED.

TOWNS AND CITIES.	TEACHERS AND TEACHERS' WAGES.						LENGTH OF SCHOOLING.		HIGH SCHOOLS.							
	NUMBER OF TEACHERS REQUIRED BY THE PUBLIC SCHOOLS.		NUMBER OF TEACHERS WHO HAVE GRADUATED FROM COLLEGE.		No. of teachers who have graduated from normal schools.	Average wages per month of		Aggregate of months all the public schools have been kept during the school year.	Average number of months public schools have been kept during the year.	No. of high schools.	No. of teachers.	No. of pupils.	No. of pupils admitted to the freshman class.	No. of graduates.	Length of schooling.	Expenditures for high school support.
						male teachers.	female teachers.									
		Men.	Women.	In high schools.	In elementary schools.											
Amherst, . . . . .	2	23	6	—	7	\$120 00	\$48 00	160-7	9-6	1	6	199	49	40	9-15	\$6,625 00
Belchertown, . . . . .	3	15	2	—	3	63 24	35 40	137	8-1	1	2	61	14	10	9	1,840 00
Chesterfield, . . . . .	1	4	—	1	1	40 00	40 75	42-1	8-8	—	—	—	—	—	—	—
Cummington, . . . . .	—	8	—	—	2	—	37 34	67-5	8-8	—	—	—	—	—	—	—
Easthampton, . . . . .	2	27	4	2	13	91 50	45 42	223-14	8-8	1	5	72	22	5	9-17	3,925 00
Enfield, . . . . .	—	7	—	—	2	—	42 00	63	9	—	—	—	—	—	—	—
Goshen, . . . . .	—	4	—	—	4	—	44 00	32-12	8-3	—	—	—	—	—	—	—
Granby, . . . . .	1	5	2	—	4	70 00	43 60	45-15	9-3	1	2	18	12	3	9-16	1,615 18
Greenwich, . . . . .	—	2	—	—	1	—	44 00	17-19	8-19	—	—	—	—	—	—	—
Hadley, . . . . .	1	13	3	1	5	120 00	44 15	103-15	8-13	1	3	41	17	4	9-15	3,991 70
Hatfield, . . . . .	—	10	—	1	8	—	43 20	90	9	—	—	—	—	—	—	—
Huntington, . . . . .	1	12	4	—	6	80 00	39 66	91-3	9-2	1	4	53	19	7	9-16	3,098 72
Middlefield, . . . . .	—	7	—	—	6	—	37 30	60-13	8-14	—	—	—	—	—	—	—
Northampton, . . . . .	7	91	13	4	46	132 00	52 84	754-11	9-13	1	14	326	105	64	9-13	16,718 07
Pelham, . . . . .	—	4	—	—	1	—	40 00	35-11	8-17	—	—	—	—	—	—	—
Pianfield, . . . . .	—	5	—	—	2	—	37 75	41-5	8-5	—	—	—	—	—	—	—
Prescott, . . . . .	—	5	1	—	1	—	34 00	35-12	8-18	—	—	—	—	—	—	—

Southampton,	8	1	1	35 11	70-4	8-15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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<sup>1</sup> Hopkins Academy.

## HAMPSHIRE COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR THE SUPPORT OF PUBLIC SCHOOLS.							Total expenditure for the support of public schools, being the total of the seven preceding columns.	Amount included in the total expenditure as given in the preceding column, but derived from other sources than local taxation, such as aid from the State, voluntary contributions, income from local funds, etc.	Amount raised by local taxation and expended for the support of public schools, being the total expenditure for such support diminished by contributions from other sources than local taxation
	Teachers' wages.	Conveyance of pupils.	Fuel and care of school premises.	School committee, including clerical aid and transient service.	Superintendent and assistants.	Text-books and school supplies.	School sundries.			
Amherst, . . .	\$14,114 78	\$1,016 86	\$2,380 67	\$170 00	\$1,650 00	\$1,167 57	\$746 53	\$21,246 41	\$2,591 53	\$18,654 88
Belchertown, . . .	5,877 50	181 00	440 43	94 00	1,080 00	321 05	96 65	8,090 63	2,876 20	5,214 43
Chesterfield, . . .	2,233 25	537 00	126 30	34 00	375 00	114 88	53 80	3,474 23	1,950 36	1,523 87
Cummington, . . .	3,160 20	98 50	232 96	40 00	439 97	234 00	87 85	4,293 48	2,804 74	1,488 74
Easthampton, . . .	16,262 66	1,373 05	3,465 74	165 38	1,134 60	1,298 19	1,092 78	24,792 40	1,211 31	23,581 09
Enfield, . . .	3,741 40	966 70	509 24	90 00	420 00	321 85	22 31	6,074 50	2,482 85	3,591 65
Goshen, . . .	1,777 40	—	107 13	16 00	220 02	210 63	23 97	2,355 15	1,510 40	844 75
Granby, . . .	3,170 85	1,130 25	478 99	73 17	437 50	133 42	525 18	5,949 36	2,462 83	3,486 53
Greenwich, . . .	1,236 70	741 50	88 25	40 00	166 30	77 21	15 08	2,365 04	1,415 04	950 00
Hadley, . . .	7,005 50	586 50	1,432 40	25 00	631 07	961 74	331 86	10,949 32	4,988 11	5,961 21
Hatfield, . . .	4,054 66	12 00	951 48	60 00	555 60	464 98	142 80	6,241 52	1,442 05	4,799 47
Huntington, . . .	5,456 91	460 05	1,254 74	43 63	506 54	345 02	236 60	8,303 49	2,870 63	5,432 86
Middlefield, . . .	3,017 00	—	159 37	20 00	267 82	143 76	32 51	3,640 46	2,523 25	1,117 21
Northampton, . . .	56,705 99	882 60	14,276 63	765 11	2,200 00	4,600 18	1,635 38	81,065 89	1,992 39	79,073 50
Pelham, . . .	1,984 34	115 00	90 65	—	400 00	61 56	114 29	2,765 84	2,110 60	655 24
Plainfield, . . .	1,793 80	—	121 95	29 30	303 56	225 98	49 05	2,523 64	1,604 61	919 03
Prescott, . . .	1,289 50	439 50	57 40	35 00	364 06	145 84	64 97	2,396 27	1,579 83	816 44

Southampton,	3,475 35	-	254 75	70 00	312 50	204 10	1 70	4,318 40	2,184 18	2,134 22
South Hadley,	13,807 77	1,548 00	3,426 77	102 00	1,312 50	1,420 03	1,004 20	22,621 27	1,160 57	21,460 70
Ware, . . .	20,536 75	1,060 40	6,100 77	-	2,000 00	2,067 82	1,279 83	33,045 57	239 64	32,805 93
Westhampton,	2,063 45	-	131 80	42 00	225 00	80 62	29 66	2,572 53	1,446 41	1,126 12
Williamsburg,	5,682 20	393 00	1,208 86	225 00	750 00	507 85	383 35	9,150 26	3,543 60	5,606 66
Worthington,	2,598 00	11 25	150 13	79 00	375 00	90 52	348 26	3,652 16	2,163 35	1,488 81
Totals, . . .	\$181,048 96	\$11,553 16	\$37,447 41	\$2,193 84	\$16,127 04	\$15,198 80	\$8,318 61	\$271,887 82	\$49,154 48	\$222,733 34

# BOARD OF EDUCATION.

## HAMPSHIRE COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR SCHOOL BUILDINGS.			Total expenditure for school buildings being the total of the three preceding columns.	Amount included in the total expenditure for school buildings given in the preceding column, but derived from other sources than local taxation.	Amount raised by local taxation and expended for school buildings, that is, for all school purposes.	LOCAL FUNDS WHOSE INCOME MUST BE APPROPRIATED TO THE PUBLIC SCHOOLS.		Dox tax and other income voluntarily appropriated to the public schools.
	New schoolhouses.	Alterations and permanent repairs.	Ordinary repairs.				Principal.	Income.	
Amherst, . . . . .	—	—	\$707 48	\$707 48	—	\$19,362 36	—	—	\$397 76
Belchertown, . . . . .	—	\$126 72	104 45	231 17	—	5,445 60	\$242 40	—	—
Chesterfield, . . . . .	—	90 00	15 45	105 45	—	1,629 32	500 00	30 00	—
Cummington, . . . . .	—	—	165 38	165 38	—	1,654 12	—	—	69 32
Easthampton, . . . . .	—	—	742 23	742 23	—	24,323 32	—	—	323 32
Enfield, . . . . .	—	—	60 96	60 96	—	3,652 61	—	—	—
Goshen, . . . . .	—	—	52 19	52 19	—	896 94	—	—	—
Granby, . . . . .	—	101 20	51 34	152 54	—	3,639 07	—	—	—
Greenwich, . . . . .	—	—	6 16	6 16	—	956 16	500 00	30 00	—
Hadley, . . . . .	—	—	637 08	637 08	—	6,598 29	—	—	—
Hatfield, . . . . .	—	—	—	—	—	4,799 47	—	—	140 50
Huntington, . . . . .	—	—	54 95	54 95	—	5,487 81	—	—	—
Middlefield, . . . . .	—	—	39 90	39 90	—	1,157 11	—	—	—
Northampton, . . . . .	—	500 00	2,550 64	3,050 64	—	82,124 14	3,000 00	113 54	1,020 50
Pelham, . . . . .	—	—	29 00	29 00	—	684 24	—	—	32 81
Plainfield, . . . . .	—	—	4 40	4 40	—	923 43	—	—	21 18
Prescott, . . . . .	—	—	67 89	67 89	—	884 33	—	—	57 22



## SCHOOL RETURNS.

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Southampton,	.	.	118 75	118 75	118 75	2,252 97	-	-	149 33
South Hadley,	.	.	285 47	1,338 07	1,338 07	22,798 77	-	-	353 56
Ware,	.	.	759 14	1,696 40	1,696 40	34,502 33	-	-	-
Westhampton,	.	.	73 88	73 88	73 88	1,200 00	-	-	-
Williamsburg,	.	.	91 16	683 08	683 08	6,289 74	14,104 00	725 80	153 99
Worthington,	.	.	23 45	23 45	23 45	1,512 26	-	-	347 64
Totals,	.	.	\$6,641 35	\$10,041 05	\$10,041 05	\$232,774 39	\$24,104 00	\$1,141 74	\$8,067 13



### SCHOOL RETURNS.

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[illegible]

## BOARD OF EDUCATION.

## MIDDLESEX COUNTY.

TOWNS AND CITIES.	SCHOOL CENSUS DATA SEPT. 1, 1909.		No. of public schools.	SCHOOL MEMBERSHIP, ATTENDANCE AND GRADUATION DATA FOR THE SCHOOL YEAR.									
	No. of persons in towns be- tween 5 and 15 years of age.	No. of persons in towns be- tween 7 and 14 years of age.		No. of different pupils of all ages in the public schools during the school year.	No. of different pupils with- in the year under 5 years of age.	No. of different pupils with- in the year over 15 years of age.	No. of different pupils with- in the year between 7 and 14 years of age.	Average membership of all the schools.	Average attendance of all the schools.	Percentage of attendance based on average mem- bership.	No. graduated from gram- mar schools.		
Acton, .	320	231	11	346	15	253	309	286	.92	37			
Arlington, .	2,066	1,536	45	2,166	262	1,489	1,942	1,839	.95	110			
Ashby, .	134	120	5	144	16	114	128	115	.90	6			
Ashland, .	277	189	10	322	45	196	292	272	.92	22			
Ayer, .	417	286	10	504	76	305	452	417	.92	25			
Bedford, .	165	131	4	158	4	124	145	133	.92	23			
Belmont, .	879	592	23	959	119	616	848	780	.92	59			
Billerica, .	468	416	16	535	14	338	452	374	.83	25			
Boxborough, .	66	48	4	59	—	43	51	46	.90	4			
Burlington, .	89	51	3	78	6	62	74	70	.94	3			
Cambridge, .	15,827	11,298	323	16,820	1,700	10,453	15,465	14,414	.93	756			
Carlisle, .	101	81	3	114	1	81	79	67	.85	3			
Chelmsford, .	828	600	26	928	69	602	811	740	.91	17			
Concord, .	921	549	21	1,092	221	760	1,009	938	.93	78			
Dracut, .	619	490	16	568	8	432	539	493	.92	24			
Dunstable, .	79	60	3	82	5	68	74	68	.92	—			
Everett, .	6,181	4,647	141	6,860	685	4,579	6,462	6,119	.95	362			
Framingham, .	1,815	1,451	52	2,273	266	1,422	2,126	1,945	.91	138			
Groton, .	313	226	10	385	65	246	338	307	.91	23			
Holliston, .	484	365	12	545	43	371	470	429	.92	23			

## SCHOOL RETURNS.

lii

Hopkinton, .	2,585	1,578,361	13	417	305	497	-	53	340	440	418	.94	31
Hudson, A	6,217	3,925,195	21	1,138	597	1,141	-	121	797	1,082	1,011	.93	81
Lexington, .	4,550	7,257,810	24	756	776	846	-	151	330	825	762	.92	50
Lincoln, .	1,122	3,040,251	5	158	113	150	-	4	112	138	128	.93	9
Littleton, .	1,219	1,072,355	7	187	133	251	-	35	175	229	210	.92	8
Lowell, .	94,889	78,915,302	271	14,740	10,800	13,424	648	1,139	8,109	11,476	10,539	.92	487
Malden, .	38,037	41,189,680	153	7,893	5,578	7,523	8	992	4,779	7,071	6,595	.93	406
Marlborough, .	14,073	10,320,913	54	2,919	2,044	2,699	6	291	1,770	2,376	2,230	.93	115
Maynard, .	5,811	3,870,715	21	754	572	912	-	82	538	815	762	.94	66
Medford, .	19,686	23,145,500	92	4,047	2,860	4,656	32	504	2,017	4,132	3,849	.93	260
Melrose, .	14,295	16,149,825	66	2,869	2,171	3,222	37	520	2,074	3,050	2,882	.94	203
Natick, .	9,609	7,833,700	39	1,625	1,150	1,890	-	295	1,735	1,703	1,703	.97	98
Newton, .	36,827	70,796,890	168	6,615	4,677	7,120	254	1,183	3,712	6,425	5,869	.91	426
North Reading, .	903	701,634	4	157	118	144	2	1	113	139	124	.89	17
Pepperell, .	3,268	2,253,058	17	587	420	610	-	56	430	545	510	.94	35
Reading, .	5,682	5,454,429	23	1,029	737	1,281	3	203	795	1,168	1,074	.91	100
Sherborn, .	1,379	1,480,601	5	203	157	218	-	1	169	178	162	.90	15
Shirley, .	1,692	1,048,219	7	337	245	223	-	24	156	200	184	.92	12
Somerville, .	69,272	63,658,953	248	12,419	9,378	13,170	267	1,780	8,001	12,325	11,573	.94	741
Stonham, .	6,332	5,032,490	26	1,107	890	1,249	6	161	791	1,135	1,071	.94	63
Stow, .	1,027	938,473	6	201	143	226	-	17	119	196	182	.94	15
Sudbury, .	1,159	1,254,980	7	176	122	195	2	30	139	192	180	.94	15
Tewksbury, .	4,415	1,270,960	6	271	199	230	6	6	166	198	177	.89	14
Townsend, .	1,772	1,174,800	9	292	224	330	-	42	240	300	282	.94	20
Tyngsborough, .	768	558,813	5	140	104	138	1	3	106	116	105	.90	6
Wakefield, .	10,268	9,089,098	52	1,895	1,323	2,451	17	327	1,484	2,201	2,069	.95	115
Waltham, .	26,282	25,424,620	75	3,923	2,788	3,397	95	475	1,985	3,124	2,894	.93	171
Watertown, .	11,258	14,157,041	41	1,971	1,358	1,808	5	214	1,123	1,647	1,533	.93	85
Wayland, .	2,220	2,349,414	11	349	251	375	1	64	229	345	326	.95	27
Westford, .	2,413	1,833,214	15	448	327	465	3	38	344	411	374	.91	16
Weston, .	2,091	6,832,756	10	301	206	307	2	59	194	302	284	.94	25
Wilmington, .	1,670	1,389,776	12	380	298	417	7	46	261	382	357	.93	31
Winchester, .	8,242	12,471,725	37	1,785	1,157	1,846	64	210	1,164	1,648	1,546	.94	102
Woburn, .	14,402	11,196,722	59	3,663	2,198	3,058	15	344	2,004	2,901	2,745	.94	133
Totals, .	608,499	\$630,915,750	2,347	107,801	77,786	111,407	2,550	13,091	68,465	101,513	94,562	.93	5,736

MIDDLESEX COUNTY — CONTINUED.

TOWNS AND CITIES.	TEACHERS AND TEACHERS' WAGES.						LENGTH OF SCHOOLING.		HIGH SCHOOLS.							
	NUMBER OF TEACHERS REQUIRED BY THE PUBLIC SCHOOLS.		NUMBER OF TEACHERS WHO HAVE GRADUATED FROM COLLEGE.		No. of teachers who have graduated from normal schools.	Average wages per month of male teachers.	Average wages per month of female teachers.	Aggregate of months all the public schools have been kept during the school year.	Average number of months public schools have been kept during the year.	No. of high schools.	No. of teachers.	No. of pupils.	No. of pupils admitted to the freshman class.	No. of graduates.	Length of schooling.	Expenditures for high school support.
	Men.	Women.	In high schools.	In elementary schools.												
Acton, . . . . .	1	11	1	2	7	\$51 20	101-12	9-4	1	1	1	78	27	4	10	\$4,210 97
Arlington, . . . . .	3	59	8	2	33	67 96	425-19	9-9	1	1	12	391	116	31	9-10	18,304 30
Ashby, . . . . .	1	5	2	1	2	80 00	45	9	1	1	2	17	7	3	9	1,355 00
Ashland, . . . . .	1	11	3	—	6	93 75	88-18	8-17	1	1	3	49	16	6	9-15	2,517 50
Ayer, . . . . .	1	12	3	—	6	140 00	95-6	9-10	1	1	4	99	27	16	9-18	3,892 77
Bedford, . . . . .	4	4	—	4	4	—	36-14	9-4	1	1	5	101	48	16	—	—
Belmont, . . . . .	2	25	4	2	14	127 50	210-9	9-3	1	1	3	57	18	9	9-3	6,850 00
Billerica, . . . . .	1	14	—	3	6	77 00	133-4	8-18	1	1	3	57	18	9	9-11	2,370 00
Boxborough, . . . . .	—	4	—	—	2	40 00	36	9	—	—	—	—	—	—	—	—
Burlington, . . . . .	—	3	—	—	2	49 12	27-17	9-6	—	—	—	—	—	—	—	—
Cambridge, . . . . .	49	408	51	28	244	162 55	3,052-13	9-9	3	70	1,771	624	199	199	9-11	112,534 03
Carlisle, . . . . .	—	3	—	—	2	42 00	24-13	8-4	—	—	—	—	—	—	—	—
Chelmsford, . . . . .	2	28	6	—	19	102 50	240-13	9-5	2	2	68	30	30	3	9-14	4,372 00
Concord, . . . . .	5	35	—	—	18	120 83	189-19	9-1	1	14	298	108	108	55	9-12	15,298 70
Dracut, . . . . .	—	18	—	—	15	47 33	148-14	9-6	—	—	—	—	—	—	—	—
Dunstable, . . . . .	—	3	—	—	2	—	26-17	8-19	—	—	—	—	—	—	—	—
Everett, . . . . .	13	176	14	1	98	142 72	1,274-13	9-2	1	20	620	251	251	74	9-4	28,836 42
Framingham, . . . . .	7	59	7	2	39	131 66	469-14	9	1	10	306	122	122	46	9-13	14,757 00
Groton, . . . . .	1	13	3	—	3	130 00	89-10	8-19	1	4	86	23	23	20	9-6	3,946 60
Holliston, . . . . .	1	13	3	—	6	100 00	114-9	8-16	1	3	59	25	25	13	9-15	2,490 00

### ERRATUM.

For Wakefield, substitute for average wages per month of teachers the following figures:—

Men, \$113.00; women, \$54.64.

### ERRATA.

A second return received from Melrose too late for insertion in the regular tables gives the following corrected data:—

Number of teachers required by the public day schools:—

Men, 9; women, 80; total, 89.

Average wages per month of actual teaching in all the public schools:—

Men, \$140.80; women, \$71.45.

Amount expended for the wages of teachers, including

tuition (if any) paid to other towns, . . . \$65,687 34

Total amount expended for the *support* of public schools,

that is, for all school purposes exclusive of build-  
ings, . . . . . \$93,177 12

Amount *raised by local taxation and expended* for the

*support* of public schools, . . . . . \$93,177 12





# SCHOOL RETURNS.

	15	1	5	115-14	8-18	1	3	65	25	7	9-16	3,163 13
Hopkinton,	3	6	13	118 54	9-9	1	7	246	81	18	9-11	7,940 00
Hudson,	3	8	24	140 00	9-15	1	7	118	44	15	9-15	10,578 34
Lexington,	2	8	3	46	9-4	1	3	55	10	6	9-15	2,798 94
Lincoln,	1	3	6	116 10	9	1	35	1,214	445	213	9-3	57,014 58
Lowell,	24	21	124	177 62	9-1	1	36	920	357	106	9-5	54,353 43
Malden,	26	23	116	149 04	9-11	1	13	448	102	43	9-9	14,045 00
Marlborough,	6	8	17	98 20	8-11	1	22	528	28	15	9-16	4,475 00 <sup>2</sup>
Maynard,	1	5	19	140 00	9-5	1	5	128	224	63	9-6	30,867 33
Medford,	16	19	40	144 53	9-3	1	20	541	158	90	9-4	25,542 85
Melrose,	9	15	58	124 44	9-3	1	1	290	96	33	9-14	11,490 00
Natick,	6	9	32	135 16	9-3	1	45	1,040	319	204	9-11	70,941 67
Newton,	21	32	141	208 33	9-8	1	10	83	35	4	9-5	2,917 20
North Reading,	4	3	3	33-19	8-9	1	3	308	97	47	9-2	1,986 20
Pepperell,	1	3	7	115 76	9-5	1	12	38	13	6	9-10	2,171 29
Reading,	33	11	17	155 00	9-5	1	2	34	14	3	9-16	83,621 33
Sherborn,	5	2	5	48 00	9-10	1	2	57	12	5	9-3	6,151 00
Shirley,	7	2	4	90 00	66-12	1	58	1,761	634	265	9-3	1,950 07
Somerville,	36	40	149	167 92	9-2	2	7	234	57	22	9-6	1,969 20
Stoneham,	1	6	10	180 00	9	1	13	373	142	53	9-4	13,368 24
Stow,	1	2	3	90 00	9-3	1	17	500	147	77	9-5	31,148 29
Sudbury,	1	3	4	85 00	66-6	1	10	212	79	27	9-13	11,883 42
Tewksbury,	6	3	5	46 00	9-4	1	2	62	22	9	9-12	3,125 00
Townsend,	2	3	3	60 00	56-16	1	2	55	16	4	9-15	2,977 38
Tyngsborough,	5	3	4	44 00	82	1	4	72	25	6	9	3,923 90
Wakefield,	7	11	28	201 33	48-16	1	13	373	142	53	9-4	13,368 24
Waltham,	12	13	57	157 47	463-9	1	17	500	147	77	9-5	31,148 29
Watertown,	5	3	25	153 85	697-10	1	10	212	79	27	9-13	11,883 42
Wayland,	2	3	7	112 63	374-8	1	2	62	22	9	9-12	3,125 00
Westford,	2	2	7	89 16	103-17	1	2	55	16	4	9-15	2,977 38
Weston,	1	4	6	222 22	135-15	1	4	72	25	6	9	3,923 90
Wilmington,	1	4	4	110 00	90	1	4	77	29	12	9-13	3,568 25
Winchester,	4	7	22	167 50	109-18	1	10	255	109	21	9-11	12,688 63
Woburn,	67	7	17	126 00	346-5	1	12	406	142	41	9	13,634 37
Totals,	2,866	376	1,503	\$154 78	530-9	48	526	14,266	4,932	1,916	9-10	\$716,034 33

\* Westford Academy.

\* United with Sawin Academy.

\* High school statistics include ninth grade.

\* Howe Academy.

## MIDDLESEX COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR THE SUPPORT OF PUBLIC SCHOOLS.							Total expenditure for the support of public schools, being the total of the seven preceding columns.	Amount included in the total expenditure as given in the preceding column, but derived from other sources than local taxation, such as aid from the State, voluntary contributions, income from local funds, etc.	Amount raised by local taxation and expended for the support of public schools, being the total diminished by contributions from other sources than local taxation.
	Teachers' wages.	Conveyance of pupils.	Fuel and care of school premises.	School committee, including clerical aid and truant service.	Superintendent and assistants.	Text-books and school supplies.	School sundries.			
Action, .	\$9,295 80	\$2,541 87	\$1,319 62	\$28 85	\$875 00	\$402 97	\$93 50	\$14,617 61	\$1,587 89	\$13,029 72
Arlington, .	46,493 50	—	8,669 18	395 75	2,500 00	5,726 18	1,333 81	65,118 42	1,012 31	64,106 11
Ashby, .	2,820 00	1,934 30	554 97	5 00	324 00	199 25	117 77	5,955 29	2,047 37	3,907 92
Ashland, .	5,735 29	1,200 00	1,316 39	65 00	625 00	644 11	398 59	9,984 38	2,015 39	7,968 99
Ayer, .	7,787 75	50 00	1,850 52	—	720 87	1,351 64	443 90	12,204 68	1,658 10	10,546 58
Bedford, .	3,771 26	933 00	740 10	—	630 00	271 21	169 65	6,515 22	2,013 14	4,502 08
Belmont, .	20,628 93	160 00	4,249 21	32 15	1,700 00	1,717 83	1,933 24	30,421 36	296 24	30,125 12
Billerica, .	7,135 00	1,130 00	2,193 00	—	810 00	428 36	719 87	12,416 23	769 89	11,646 34
Boxborough, .	2,017 50	302 35	143 50	25 00	304 98	101 96	72 44	2,967 73	2,027 80	939 93
Burlington, .	2,051 02	773 75	511 37	40 00	270 00	199 01	41 01	3,886 16	1,465 91	2,420 25
Cambridge, .	389,282 90	327 00	72,155 81	9,106 67	4,850 00	26,040 25	4,679 25	506,441 88	7,631 14	498,810 74
Carlisle, .	1,161 48	1,219 10	603 19	2 00	186 67	105 54	143 44	3,421 42	1,442 12	1,979 30
Chelmsford, .	15,839 55	1,206 51	3,382 43	275 00	1,279 98	1,452 29	638 71	24,074 47	1,235 89	22,838 58
Concord, .	28,202 71	3,478 00	4,393 83	232 37	500 00	3,363 09	1,462 79	41,632 79	7,410 94	34,221 85
Dracut, .	11,599 77	888 50	3,266 99	81 20	1,037 49	808 04	175 70	17,857 69	1,682 94	16,174 75
Dunstable, .	1,318 90	1,182 40	606 36	13 09	160 00	127 46	40 28	3,448 49	1,456 09	1,992 40
Everett, .	130,987 93	—	23,747 03	1,430 00	2,800 00	13,886 56	7,466 92	180,318 44	279 00	180,039 44
Frammingham, .	40,638 30	2,744 62	8,858 75	327 98	1,916 59	3,867 24	4,829 32	63,182 80	885 93	62,296 87
Groton, .	8,050 00	1,173 00	1,292 10	15 00	250 00	766 61	523 76	12,070 47	221 00	11,849 47
Holliston, .	6,955 44	1,334 20	1,801 47	6 35	620 00	1,196 49	201 98	12,115 93	1,565 31	10,550 62

## SCHOOL RETURNS.

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Hopkinton, . . .	9,127 56	1,157 35	2,168 12	10 00	975 00	639 53	380 77	14,458 33	2,259 29	12,199 04
Hudson, . . .	17,056 56	796 28	4,005 13	-	1,500 00	1,907 13	1,462 87	26,787 97	501 29	26,286 68
Lexington, . . .	21,059 47	3,172 15	5,259 16	-	1,290 50	3,706 76	518 14	35,006 18	291 60	34,714 58
Lincoln, . . .	1,701 26	4,487 00	1,288 96	-	500 00	2,282 83	597 18	8,857 23	162 53	8,694 70
Littleton, . . .	5,151 00	1,341 50	1,074 56	-	352 00	727 63	167 72	8,814 41	2,241 30	6,573 11
Lowell, . . .	273,093 69	375 00	73,047 11	4,940 07	3,000 00	13,095 48	9,264 03	376,815 38	6,382 00	370,433 38
Malden, . . .	163,361 81	-	31,257 13	2,993 08	2,700 00	13,875 25	5,103 42	219,290 69	1,438 20	217,852 49
Marlborough, . . .	44,540 64	1,418 31	7,314 48	900 00	2,100 00	3,755 83	1,416 04	61,445 30	32 00	61,413 30
Maynard, . . .	16,207 20	376 25	3,529 34	341 50	875 00	1,480 63	1,194 02	24,003 94	-	24,003 94
Medford, . . .	96,733 97	-	19,809 00	2,250 00	2,800 00	7,037 12	3,610 10	132,300 19	451 57	131,848 62
Melrose, . . .	68,879 50	560 00	14,048 89	757 50	2,350 00	6,540 57	3,148 16	96,284 62	-	96,284 62
Natick, . . .	37,042 13	911 00	7,220 74	90 00	1,600 00	3,348 96	4,264 55	54,477 38	-	54,477 38
Newton, . . .	232,412 91	1,949 90	36,119 02	2,643 13	5,000 00	28,280 82	2,183 15	308,588 93	-	308,588 93
North Reading, . . .	2,997 11	1,075 00	409 53	93 90	224 14	326 88	40 00	5,166 56	3,180 41	1,986 15
Pepperell, . . .	9,171 37	954 00	2,632 10	208 25	780 00	677 30	414 50	14,837 52	1,329 17	13,508 35
Reading, . . .	23,451 33	1,088 00	5,480 67	-	1,066 64	3,207 77	2,249 49	36,543 90	2,036 32	34,507 58
Sherborn, . . .	2,507 02	1,817 00	723 00	40 75	300 00	254 57	138 02	5,780 36	1,155 30	4,625 06
Shirley, . . .	4,334 35	1,520 67	881 68	105 00	459 75	322 04	177 65	7,801 14	2,174 10	5,627 04
Somerville, . . .	293,209 85	-	45,491 26	2,629 17	3,000 00	16,117 87	5,701 06	366,149 21	-	366,149 21
Stoneham, . . .	21,707 41	144 95	4,995 20	134 51	1,440 00	1,946 65	1,070 50	31,439 22	269 56	31,169 66
Stow, . . .	3,636 76	1,473 81	868 15	102 00	510 69	1,217 02	30 59	7,839 02	2,968 27	4,870 75
Sudbury, . . .	4,784 86	2,155 85	813 10	98 50	450 00	517 27	144 03	8,963 61	2,138 84	6,824 77
Tewksbury, . . .	5,439 40	893 00	780 04	87 00	625 00	420 75	202 35	8,447 54	2,345 83	6,101 71
Townsend, . . .	5,340 25	1,624 35	1,003 22	4 75	825 00	460 42	102 92	9,860 91	2,072 65	7,288 26
Tyngsborough, . . .	2,923 00	1,539 80	543 40	33 05	209 16	224 90	101 57	5,574 88	2,139 37	3,435 51
Wakefield, . . .	38,577 00	-	8,137 94	400 00	1,650 00	4,002 49	1,488 28	54,255 71	2,151 75	52,103 96
Waltham, . . .	79,507 17	1,205 00	15,049 81	1,000 00	2,500 00	5,974 91	2,309 35	107,606 24	157 00	107,449 24
Watertown, . . .	46,052 50	475 00	3,556 36	455 67	1,906 68	5,302 15	795 48	58,543 84	-	58,543 84
Wayland, . . .	8,764 60	2,080 00	1,933 28	160 00	750 00	695 55	139 51	14,522 94	2,419 54	12,103 40
Westford, . . .	8,258 78	1,593 00	1,982 19	6 00	850 00	657 22	243 70	13,590 89	1,781 21	11,809 68
Weston, . . .	10,732 17	4,397 00	2,742 17	450 00	200 00	920 10	750 85	20,192 29	-	20,192 29
Wilmington, . . .	7,534 76	-	1,847 12	150 00	900 00	506 56	116 98	11,049 42	2,233 40	8,816 02
Winchester, . . .	38,352 22	570 00	8,104 68	638 25	2,283 62	3,736 47	1,045 40	54,730 64	746 45	53,984 19
Woburn, . . .	46,945 50	120 00	8,929 53	1,052 52	2,000 00	4,343 73	1,037 03	64,428 31	1,340 75	63,087 56
Totals, . . .	\$2,395,213 88	\$61,064 03	\$464,791 89	\$34,856 01	\$70,333 76	\$199,281 25	\$77,095 34	\$3,302,606 16	\$85,104 10	\$3,217,502 06

## MIDDLESEX COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR SCHOOL BUILDINGS.			Total expenditure for school buildings being the total of the three preceding columns.	Amount included in the total expenditure for school buildings as given in the preceding column, but derived from other sources than local taxation.	Amount raised by local taxation and expended for school buildings.	Amount raised by local taxation and expended for support of the public schools, that is, for all school purposes.	LOCAL FUNDS WHOSE INCOME MUST BE APPROPRIATED TO THE PUBLIC SCHOOLS.		Dog tax and other income voluntarily appropriated to the public schools.
	New schoolhouses.	Alterations and permanent repairs.	Ordinary repairs.					Principal.	Income.	
Acton, . . . . .	—	\$363 70	\$377 36	\$741 06	—	\$741 06	\$13,770 78	—	—	\$373 25
Arlington, . . . . .	\$30,371 35	935 13	653 44	31,959 92	—	31,959 92	96,066 03	\$40,079 55	\$1,645 53	—
Ashby, . . . . .	—	143 58	51 44	195 02	—	195 02	4,102 94	636 34	38 96	229 52
Ashland, . . . . .	—	—	223 72	223 72	—	223 72	8,192 71	—	—	326 89
Ayer, . . . . .	—	—	455 44	455 44	—	455 44	11,002 02	—	—	303 55
Bedford, . . . . .	—	1,469 50	99 54	1,569 04	—	1,569 04	6,071 12	—	—	—
Belmont, . . . . .	—	2,070 75	376 13	2,446 88	—	2,446 88	32,572 00	—	—	—
BillERICA, . . . . .	—	—	569 37	569 37	\$5 70	563 67	12,210 01	—	—	398 86
Boxborough, . . . . .	—	—	—	—	—	—	939 93	—	—	—
Burlington, . . . . .	—	—	125 19	125 19	—	125 19	2,545 44	—	—	236 21
Cambridge, . . . . .	76,044 47	4,088 87	19,524 15	99,657 49	—	99,657 49	598,468 23	—	—	—
Carlisle, . . . . .	533 33	74 82	16 40	624 55	—	624 55	2,603 85	—	20 20	—
Chelmsford, . . . . .	—	500 04	739 95	1,239 99	739 95	500 04	23,338 62	—	—	580 61
Concord, . . . . .	—	644 59	932 53	1,577 12	—	1,577 12	35,798 97	28,800 00	1,319 77	—
Dracut, . . . . .	628 72	451 43	750 45	1,830 60	—	1,830 60	18,005 35	3,000 00	113 84	1,556 99
Dunstable, . . . . .	—	—	325 95	325 95	5 28	320 67	2,313 07	—	—	—
Everett, . . . . .	—	1,272 73	8,518 77	9,791 50	—	9,791 50	189,830 94	—	—	—
Frammingham, . . . . .	—	—	2,194 64	2,194 64	—	2,194 64	64,491 51	1,258 94	75 54	1,468 27
Groton, . . . . .	—	—	—	—	—	—	11,849 47	—	—	—
Holliston, . . . . .	—	269 74	212 78	482 52	—	482 52	11,033 14	—	—	—

## SCHOOL RETURNS.

lix

Hopkinton,	-	843 67	843 67	-	843 67	13,042 71	5,836 00	233 44	693 82
Hudson,	-	1,107 40	1,107 40	-	1,107 40	27,394 08	762 41	30 78	358 88
Lexington,	-	1,423 81	1,423 81	-	1,423 81	36,138 39	-	-	-
Lincoln,	-	12,584 06	12,584 06	-	12,584 06	21,278 76	-	48 82	-
Littleton,	-	273 82	273 82	-	273 82	6,846 93	3,500 00	210 00	309 96
Lovell,	-	36,801 88	78,141 58	-	78,141 58	448,574 96	-	-	-
Malden,	-	9,665 56	20,753 77	-	20,753 77	238,606 26	-	-	-
Marlborough,	-	1,497 51	1,497 51	-	1,497 51	62,910 81	-	-	-
Maynard,	-	381 66	12,303 28	-	12,303 28	36,307 22	-	-	-
Medford,	-	3,449 66	99,295 01	-	99,295 01	231,143 63	-	-	-
Melrose,	-	3,490 62	3,490 62	-	3,490 62	99,775 24	-	-	-
Natick,	-	2,425 42	6,525 42	-	6,525 42	61,002 80	-	-	-
Newton,	-	-	142,988 38	-	142,988 38	451,577 31	-	-	3,522 98
North Reading,	-	160 03	160 03	-	160 03	2,146 18	-	-	241 09
Pepperell,	-	930 16	1,514 37	-	1,514 37	15,022 72	-	-	-
Reading,	-	492 42	492 42	-	492 42	35,000 00	-	-	-
Sherborn,	-	12 50	4,691 25	-	4,691 25	9,316 31	-	-	127 34
Shirley,	-	329 01	378 29	-	378 29	6,005 33	-	422 86	-
Somerville,	-	828 00	22,023 13	-	22,023 13	388,172 34	-	-	-
Stonham,	-	-	1,330 34	-	1,330 34	32,500 00	-	-	-
Stow,	-	14,750 00	67 50	-	15,001 50	19,872 25	13,500 00	981 45	157 82
Sudbury,	-	175 58	16 75	-	192 33	7,017 10	1,151 00	46 04	315 65
Tewksbury,	-	372 10	264 87	-	636 97	6,738 68	-	-	261 03
Townsend,	-	-	125 05	-	125 05	7,413 31	-	-	-
Tyngsborough,	-	367 18	46 75	-	413 93	3,849 44	2,279 16	113 66	-
Wakefield,	-	1,061 25	2,556 28	-	1,244 56	53,415 68	-	20 00	-
Waltham,	-	4,015 71	4,449 94	-	8,465 65	115,914 89	-	-	-
Watertown,	-	2,000 00	1,418 92	-	5,418 92	63,962 76	-	-	-
Wayland,	-	1,500 00	443 69	-	1,500 00	12,547 09	-	12 00	338 69
Westford,	-	342 86	99 16	-	442 02	12,251 70	-	-	-
Weston,	-	-	1,824 82	-	1,824 82	22,017 11	-	-	-
Wilmington,	-	776 09	189 06	-	965 15	9,781 17	-	-	288 88
Winchester,	-	-	3,880 72	-	3,880 72	57,804 91	2,000 00	76 90	-
Woburn,	-	3,299 98	1,662 34	-	6,940 05	70,027 61	-	-	-
Totals,	-	\$137,591 06	\$616,635 24	-	\$3,495 49	\$613,139 75	\$113,843 97	\$5,409 79	\$12,089 79
	-	\$416,302 89		-		\$3,830,641 81			

## BOARD OF EDUCATION.

## MIDDLESEX COUNTY — CONCLUDED.

TOWNS AND CITIES.	Town's share of school fund income paid Jan. 25, 1910.	Amount of voluntary contributions expended on the public schools but not included in expenditures by the town or city.	ACADEMIES AND PRIVATE SCHOOLS.				ESTIMATED AMOUNT OF TUITION PAID IN —		FUNDS WHOSE INCOME MUST BE APPROPRIATED TO ACADEMIES OR PRIVATE SCHOOLS.	
			No. of academies.	No. of different academy pupils attending during the year.	No. of private schools.	No. of different private school pupils attending during the year.	Academies.	Private schools.	Principal.	Income.
Acton, . . . . .	\$1,127 80	—	—	—	—	—	—	—	—	—
Arlington, . . . . .	—	—	—	—	—	—	—	—	—	—
Ashby, . . . . .	1,477 80	—	—	—	—	—	—	—	—	—
Ashland, . . . . .	1,127 80	—	—	—	—	—	—	—	—	—
Ayer, . . . . .	808 35	—	—	—	—	—	—	—	—	—
Bedford, . . . . .	736 68	—	—	—	—	—	—	—	—	—
Belmont, . . . . .	—	\$300 00	1	27	—	—	\$1,700 00	—	\$12,000 00	—
Billerica, . . . . .	808 35	—	—	—	—	—	—	—	—	—
Boxborough, . . . . .	1,477 80	—	—	—	—	—	—	—	—	—
Burlington, . . . . .	788 90	—	—	—	—	—	—	—	—	—
Cambridge, . . . . .	—	—	—	—	—	—	—	—	—	—
Carlisle, . . . . .	1,063 90	—	—	—	15	4,128	—	\$48,025 00	—	—
Chelmsford, . . . . .	—	—	—	—	—	—	—	—	—	—
Concord, . . . . .	—	—	2	145	2	66	98,885 00	23,500 00	8,218 33	\$532 00
Dracut, . . . . .	808 35	15 00	—	—	—	—	—	—	—	—
Dunstable, . . . . .	1,477 80	29 34	—	—	—	—	—	—	—	—
Everett, . . . . .	—	—	—	—	—	—	—	—	—	—
Frammingham, . . . . .	—	—	—	—	—	—	—	—	—	—
Groton, . . . . .	—	99 62	1	28	1	8	2,500 00	120,000 00	40,045 59	1,408 74
Holliston, . . . . .	883 35	—	1	—	1	160	—	—	—	—

### SCHOOL RETURNS.

[illegible]

NANTUCKET COUNTY.

TOWNS AND CITIES.	Population—State Census of 1905.	Valuation—May 1, 1909.	No. of public schools.	SCHOOL CENSUS DATA Sept. 1, 1909.		SCHOOL MEMBERSHIP, ATTENDANCE AND GRADUATION DATA FOR THE SCHOOL YEAR.							
				No. of persons in towns be- tween 5 and 15 years of age.	No. of persons in towns be- tween 7 and 14 years of age.	No. of different pupils of all ages in the public schools during the school year.	No. of different pupils with- in the year under 5 years of age.	No. of different pupils with- in the year over 15 years of age.	No. of different pupils with- in the year between 7 and 14 years of age.	Average membership of all the schools.	Average attendance of all the schools.	Percentage of attendance mem- bership. based on average mem- bership.	No. graduated from gram- mar schools.
Nantucket, . . .	2,930	\$3,367,950	11	445	326	476	5	58	313	440	407	.92	25

NORFOLK COUNTY.

Avon, . . .	1,901	\$962,100	10	382	263	434	4	28	266	392	365	.93	26
Bellingham, . . .	1,686	830,895	10	298	227	323	-	9	235	295	274	.93	17
Brantree, . . .	6,879	6,054,791	33	1,450	1,054	1,612	86	103	1,054	1,424	1,293	.91	100
Brookline, . . .	23,436	104,586,100	95	3,656	2,566	4,268	366	639	2,419	3,770	3,494	.92	221
Canton, . . .	4,702	4,135,780	18	850	674	662	2	65	439	591	552	.93	41
Cohasset, . . .	2,727	7,652,937	11	445	342	476	-	60	289	433	403	.93	21
Dedham, . . .	7,774	12,812,348	43	1,525	1,075	1,786	152	197	995	1,669	1,568	.92	83
Dover, . . .	636	5,328,141	6	127	103	113	-	11	91	103	97	.94	11
Foxborough, . . .	3,364	2,277,775	16	517	364	634	9	70	408	576	525	.91	46
Franklin, . . .	5,244	3,794,560	24	949	694	1,036	3	137	720	965	904	.93	40
Holbrook, . . .	2,509	1,450,648	13	477	369	558	3	40	378	502	475	.95	49
Hyde Park, . . .	14,510	14,628,095	42	2,859	2,027	1,980	-	306	1,561	1,795	1,691	.94	139



Medfield,	3,314	1,596,504	7	229	169	290	3	47	184	266	241	.94	41
Medway,	2,650	1,447,985	12	450	296	570	7	55	407	466	428	.96	21
Mills,	1,252	995,070	7	258	186	267	—	27	179	248	228	.92	15
Milton,	7,054	24,641,225	45	1,335	1,070	1,585	177	197	855	1,428	1,328	.93	84
Needham,	4,284	5,806,960	28	862	624	986	4	140	124	937	876	.93	56
Norfolk,	1,089	829,494	6	166	111	192	—	14	119	164	152	.92	4
Norwood,	6,731	13,799,065	37	1,480	1,263	1,744	14	182	1,119	1,625	1,525	.94	94
Plainville,	1,300	794,632	6	232	158	212	—	25	137	203	186	.92	11
Quincy,	28,076	29,811,565	122	7,539	6,068	6,550	—	273	4,624	5,990	5,578	.93	365
Randolph,	4,034	2,066,200	16	747	572	762	9	51	512	706	671	.95	57
Sharon,	2,085	2,763,782	8	409	299	398	6	56	230	362	332	.91	33
Stoughton,	5,959	3,497,837	23	1,044	735	917	2	99	628	844	779	.92	34
Walpole,	4,003	4,375,630	21	871	625	949	4	92	625	866	808	.93	66
Wellesley,	6,189	13,967,085	26	726	520	978	20	164	568	915	844	.92	67
Westwood,	1,136	2,595,663	6	242	180	208	—	8	149	190	180	.95	7
Weymouth,	11,585	7,992,968	56	1,970	1,444	2,329	23	270	1,460	2,157	2,003	.93	116
Wrentham,	1,428	1,201,202	8	231	168	260	—	32	164	236	218	.92	12
Totals,	167,537	\$282,706,037	755	32,326	24,246	33,079	894	3,397	20,939	30,118	28,018	.93	1,877

## NANTUCKET COUNTY — CONTINUED.

TOWNS AND CITIES.	NUMBER OF TEACHERS REQUIRED BY THE PUBLIC SCHOOLS.		NUMBER OF TEACHERS WHO HAVE GRADUATED FROM COLLEGE.		TEACHERS AND TEACHERS' WAGES.				LENGTH OF SCHOOLING.		HIGH SCHOOLS.					
	Men.	Women.	In high schools.	In elementary schools.	No. of teachers who have graduated from normal schools.	Average wages per month of male teachers.	Average wages per month of female teachers.	Aggregate of months all the public schools have been kept during the year.	Average number of months public schools have been kept during the year.	No. of high schools	No. of teachers.	No. of pupils.	No. of pupils admitted to the freshman class.	No. of graduates.	Length of schooling.	Expenditures for high school support.
Nantucket, .	1	13	1	-	5	\$110 00	\$44 42	98-4	8-19	1	4	90	24	-	8-16	\$3,507 95

## NORFOLK COUNTY — CONTINUED.

Avon, .	1	10	2	-	6	\$105 78	\$46 08	93-6	9-6	1	2	61	25	6	9-8	\$2,085 00
Bellingham, .	-	10	-	-	7	-	43 20	88-10	8-17	-	-	-	-	-	-	-
Braintree, .	4	44	8	3	15	105 00	54 37	301-8	9-10	1	9	200	69	-	9-16	6,727 18
Brookline, .	17	142	17	4	68	195 90	79 56	926-5	9-15	1	24	573	206	76	9-15	51,084 92
Canton, .	1	19	3	1	6	150 00	52 57	180	10	1	3	73	31	10	10	3,769 40
Cohasset, .	1	14	4	1	110	8 00	59 72	110	10	1	5	72	25	-	10	5,368 00
Dedham, .	5	50	6	1	38	158 00	67 05	397-15	9-5	1	9	239	63	46	9-5	11,656 37
Dover, .	1	5	1	-	5	78 94	54 38	56-13	9-8	1	1	17	-	8	9-17	1,241 54
Foxborough, .	1	18	3	1	6	138 95	46 69	140-18	8-16	1	3	87	35	9	9-8	3,759 00
Franklin, .	2	26	4	1	14	71 50	50 60	219-16	9-3	1	4	109	33	12	9-15	5,000 00
Holbrook, .	1	14	2	1	6	120 00	49 14	115-8	8-17	1	3	65	21	11	8-15	2,575 00
Hyde Park, .	8	54	12	10	17	136 00	56 49	393-15	9-7	1	15	375	135	52	9-4	20,328 86

Medfield, .	2	8	3	—	5	47 76	67-3	9-12	1	3	46	10	8	9-15	2,736 28
Medway, .	1	13	3	1	8	46 05	104-8	8-14	1	3	51	18	5	9-15	2,300 00
Millis, .	1	7	2	—	2	42 98	62-8	8-18	1	2	38	12	9	9-13	1,891 90
Milton, .	6	61	8	1	39	187 14	407-6	9-1	1	11	215	62	28	8-19	18,000 00
Needham, .	3	32	6	4	14	115 00	273-11	9-15	1	7	152	54	22	9-16	8,245 36
Norfolk, .	1	5	1	—	3	60 00	53-12	8-19	1	1	21	8	4	9-14	1,584 50
Norwood, .	3	44	8	3	27	133 33	338-10	9-3	1	8	201	76	23	9-18	9,291 63
Plainville, .	1	8	3	—	3	110 00	55-16	9-6	1	3	35	10	6	9-17	2,586 00
Quincy, .	18	145	20	4	73	130 96	1,101	9	1	25	788	363	96	9-7	30,457 56
Randolph, .	3	15	3	—	6	119 29	146-18	9-3	1	3	123	49	13	9-1	4,424 66
Sharon, .	1	10	3	—	6	120 00	72-9	9-1	1	3	64	35	1	9-9	3,322 37
Stoughton, .	1	27	3	1	8	110 00	201-10	8-15	1	5	86	43	12	9-10	4,000 00
Walpole, .	4	21	4	—	15	90 00	192-10	9-13	1	5	127	50	16	9-15	7,170 00
Wellesley, .	3	42	10	2	18	173 33	230-13	8-17	1	9	155	32	27	9-15	10,476 07
Westwood, .	1	6	—	1	6	80 00	56-11	9-9	—	—	—	—	—	—	—
Weymouth, .	7	61	9	1	24	102 86	518-5	9-5	1	10	304	106	37	9-8	10,015 85
Wrentham, .	1	10	3	—	4	110 00	74-16	9-6	1	3	40	17	3	9-17	2,878 95
Totals, .	99	921	151	41	457	\$62 94	6,981	9-4	27	179	4,307	1,588	557	9-11	\$233,066 30

## NANTUCKET COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR THE SUPPORT OF PUBLIC SCHOOLS.							Total expenditure for the support of the seven preceding columns.	Amount included in the total expenditure as given in the preceding column, but derived from other sources than local taxation, such as aid from the State, voluntary contributions, income from local funds, etc.	Amount raised by local taxation and expended for the support of public schools, being the total expenditure for such support diminished by contributions from other sources than local taxation.
	Teachers' wages.	Conveyance of pupils.	Fuel and care of school premises.	School committee, including clerical aid and truant service.	Superintendent and assistants.	Text-books and school supplies.	School sundries.			
Nantucket, . . .	\$6,972 00	\$150 00	\$1,446 69	\$155 50	\$1,100 00	\$757 04	\$679 85	\$11,261 08	-	\$11,261 08

## NORFOLK COUNTY — CONTINUED.

Avon, . . .	\$5,075 50	\$46 39	\$1,383 33	\$105 00	\$399 96	\$600 00	\$507 12	\$8,717 30	\$2,141 24	\$6,576 06
Bellingham, . . .	4,786 00	1,119 00	1,440 82	-	566 60	434 23	43 25	8,389 90	1,836 05	6,553 85
Braintree, . . .	26,410 40	1,875 00	5,743 15	125 00	1,699 00	2,727 81	1,915 02	40,495 38	638 80	39,856 58
Brookline, . . .	138,580 47	2,441 50	23,998 16	2,883 25	3,666 63	13,288 76	7,680 50	192,539 27	-	192,539 27
Canton, . . .	12,810 00	97 50	3,416 42	25 00	1,800 00	1,897 76	540 00	20,586 68	209 50	20,377 18
Cohasset, . . .	11,991 00	2,847 50	2,356 67	115 00	750 00	998 67	563 29	19,622 13	40 40	19,581 73
Dedham, . . .	42,973 14	646 55	7,498 40	100 00	2,200 00	3,210 40	1,555 66	58,184 15	2,205 11	55,979 04
Dover, . . .	3,942 99	1,311 40	626 32	185 00	300 00	332 80	256 43	6,954 94	1,342 41	5,612 53
Foxborough, . . .	9,064 44	1,098 45	2,532 58	187 00	930 00	881 86	709 86	15,404 19	1,697 31	13,706 88
Franklin, . . .	14,662 51	3,026 44	3,781 19	-	1,467 40	2,283 04	992 55	26,213 13	987 82	25,225 31
Holbrook, . . .	7,644 05	-	1,640 18	150 00	500 00	826 33	528 31	11,288 87	1,523 02	9,765 85
Hyde Park, . . .	51,254 54	40 00	8,430 93	553 00	2,500 00	4,320 51	4,902 99	72,001 97	41 00	71,960 97

Medfield, . . . . .	5,560 00	256 20	1,100 83	105 00	400 00	448 15	83 83	7,954 01	2,079 06	5,874 95
Medway, . . . . .	6,691 28	1,508 00	1,151 02	—	644 34	802 76	577 11	11,374 51	1,622 85	9,751 66
Mills, . . . . .	3,952 75	898 00	951 92	70 00	400 00	439 89	116 39	6,828 95	1,871 85	4,957 10
Milton, . . . . .	51,887 92	2,119 50	10,342 45	648 46	2,766 66	5,198 13	1,301 45	74,264 57	783 75	74,264 57
Needham, . . . . .	20,643 22	265 10	5,330 86	30 00	1,275 00	1,990 78	1,948 69	31,483 65	1,903 85	30,699 90
Norfolk, . . . . .	3,314 00	1,491 14	571 05	85 00	400 00	224 72	21 87	6,107 78	277 85	44,259 80
Norwood, . . . . .	31,914 08	575 00	6,526 70	100 00	1,566 66	2,471 21	1,384 00	44,537 65	2,294 21	7,060 06
Plainville, . . . . .	4,887 90	1,216 00	1,493 57	120 00	532 50	474 91	629 39	9,354 27	2,294 21	143,960 00
Quincy, . . . . .	111,092 80	1,589 00	16,026 30	900 00	2,600 00	8,172 17	3,877 29	144,257 56	1,539 57	15,650 46
Randolph, . . . . .	10,859 92	420 00	2,210 72	340 00	600 00	1,653 89	1,105 50	17,190 03	1,064 44	10,430 14
Sharon, . . . . .	7,207 50	1,361 50	1,359 97	45 00	360 00	982 45	178 16	11,494 58	—	19,962 58
Stoughton, . . . . .	13,793 50	331 25	2,877 83	337 50	720 00	1,857 32	741 83	20,659 23	220 25	27,792 52
Walpole, . . . . .	16,133 21	1,820 00	4,249 95	34 10	1,600 00	3,002 79	1,172 72	28,012 77	—	42,448 01
Wellesley, . . . . .	29,149 76	1,026 30	7,334 64	240 06	1,520 00	2,672 93	504 32	42,448 01	1,313 35	8,854 39
Westwood, . . . . .	6,150 06	1,574 75	1,285 67	137 50	400 00	467 79	151 97	10,167 74	—	57,227 16
Weymouth, . . . . .	37,713 13	2,215 00	8,905 49	62 23	2,000 00	5,451 96	879 35	57,227 16	2,377 62	7,185 94
Wrentham, . . . . .	5,941 74	1,185 00	1,018 09	100 00	532 50	692 99	93 24	9,563 56		
Totals, . . . . .	\$696,687 81	\$34,401 47	\$135,585 21	\$7,783 10	\$35,097 25	\$68,807 01	\$34,962 09	\$1,013,323 94	\$31,005 52	\$982,318 42

NANTUCKET COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR SCHOOL BUILDINGS.			Total expenditure for school buildings being the total of the three preceding columns.	Amount included in the total expenditure for school buildings given in the preceding column, but derived from other sources than local taxation.	Amount raised by local taxation and expended for school buildings.	Amount raised by local taxation and expended for school purposes.	LOCAL FUNDS WHOSE INCOME MUST BE APPROPRIATED TO THE PUBLIC SCHOOLS.		Dog tax and other income voluntarily appropriated to the public schools.
	New schoolhouses.	Alterations and permanent repairs.	Ordinary repairs.					Principal.	Income.	
Nantucket,	-	\$800 00	\$203 26	\$1,003 26	-	\$1,003 26	\$12,264 34	-	-	\$267 60

NORFOLK COUNTY — CONTINUED.

Avon,	-	\$14 50	\$128 52	\$143 02	-	\$143 02	\$6,719 08	-	-	-
Bellingham,	-	-	75 38	75 38	-	75 38	6,629 23	-	-	\$321 23
Brantree,	-	750 00	375 00	21,125 00	-	21,125 00	60,981 58	\$8,741 00	\$430 00	856 88
Brookline,	\$20,000 00	1,997 15	10,443 81	12,440 96	-	12,440 96	204,980 23	-	-	-
Canton,	-	-	1,481 71	1,481 71	-	1,481 71	21,858 89	-	-	578 43
Cohasset,	-	-	969 85	969 85	-	969 85	20,551 58	-	-	440 28
Dedham,	44,944 07	1,736 64	2,028 64	48,709 35	-	48,709 35	104,688 39	1,000 00	40 40	-
Dover,	-	-	75 92	75 92	-	75 92	5,688 45	-	-	-
Foxborough,	-	75 80	383 58	459 38	-	459 38	14,166 26	-	-	635 36
Franklin,	-	2,435 38	1,170 71	3,606 09	-	3,606 09	28,831 40	-	-	709 84
Holbrook,	-	600 00	221 04	821 04	-	821 04	10,586 89	-	-	-
Hyde Park,	-	650 00	4,500 00	5,150 00	-	5,150 00	77,110 97	-	-	-

### SCHOOL RETURNS.

Medfield, . . . . .	574 24	282 30	856 54	-	856 54	6,731 49	3,540 00	141 60	-
Medway, . . . . .	30 00	431 67	461 67	-	461 67	10,213 33	-	-	-
Millis, . . . . .	214 34	211 54	425 88	-	425 88	5,382 98	-	-	-
Milton, . . . . .	-	3,084 17	3,084 17	-	3,084 17	77,348 74	-	-	-
Needham, . . . . .	-	-	-	-	-	30,699 90	3,500 00	210 00	193 75
Norfolk, . . . . .	25 00	331 73	356 73	-	356 73	4,560 66	-	-	-
Norwood, . . . . .	-	1,640 08	1,640 08	-	1,640 08	45,899 88	-	-	-
Plainville, . . . . .	-	-	-	-	-	7,060 06	727 30	29 09	303 26
Quincy, . . . . .	4,700 00	2,367 93	7,067 93	-	7,067 93	151,027 93	1,000 00	40 00	503 36
Randolph, . . . . .	1,066 09	248 01	5,980 85	-	5,980 85	21,631 31	21,242 66	1,231 12	-
Sharon, . . . . .	817 58	389 63	1,207 21	-	1,207 21	11,637 35	12,671 78	682 69	-
Stoughton, . . . . .	272 02	334 36	606 38	-	606 38	20,568 96	1,000 00	40 40	-
Walpole, . . . . .	1,200 00	1,907 04	3,107 04	-	3,107 04	30,899 56	-	-	589 47
Wellesley, . . . . .	2,129 64	786 65	2,916 29	-	2,916 29	45,364 30	-	-	-
Westwood, . . . . .	215 70	491 63	12,619 83	-	12,619 83	21,474 22	1,000 00	40 00	689 45
Weymouth, . . . . .	-	2,952 57	2,952 57	-	2,952 57	60,179 73	-	-	322 25
Wrentham, . . . . .	-	242 19	242 19	-	242 19	7,428 13	1,090 96	-	-
Totals, . . . . .	\$19,504 08	\$37,555 06	\$138,583 06	-	\$138,583 06	\$1,120,901 48	\$55,513 70	\$2,885 30	\$6,143 56





### SCHOOL RETURNS.

lxxi

[illegible]

## PLYMOUTH COUNTY.

TOWNS AND CITIES.	Population — State Census of 1905.	Valuation — May 1, 1909.	No. of public schools.	SCHOOL CENSUS DATA SEPT. 1, 1909.		SCHOOL MEMBERSHIP, ATTENDANCE AND GRADUATION DATA FOR THE SCHOOL YEAR.						
				No. of persons in towns between 5 and 15 years of age.	No. of persons in towns between 7 and 14 years of age.	No. of different pupils with- in the year under 5 years of age.	No. of different pupils with- in the year over 15 years of age.	No. of different pupils with- in the year between 7 and 14 years of age.	Average membership of all the schools.	Average attendance of all the schools.	Percentage of attendance based on average mem- bership.	No. graduated from gram- mar schools.
Abington, . . .	5,081	\$2,939,824	20	748	585	9	133	585	923	857	.93	58
Bridgewater, . . .	6,754	3,320,266	25	751	576	34	90	557	817	747	.93	45
Brookton, . . .	47,794	40,621,439	198	8,634	5,846	11	1,110	6,037	8,692	8,188	.94	512
Carver, . . .	1,410	1,504,725	10	210	179	-	11	204	205	176	.85	5
Duxbury, . . .	2,028	2,204,036	11	271	197	2	35	210	272	247	.91	21
East Bridgewater, . . .	3,169	2,078,620	17	549	394	-	54	368	501	520	.93	28
Halifax, . . .	494	534,249	3	73	57	-	4	64	66	61	.92	2
Hanover, . . .	2,176	1,479,875	11	369	258	6	38	278	385	358	.93	10
Hanson, . . .	1,490	1,079,496	10	324	212	4	1	222	274	253	.92	11
Hingham, . . .	4,819	6,102,557	20	787	556	-	150	553	880	827	.94	43
Hull, . . .	2,060	5,403,336	8	198	154	-	30	168	211	200	.95	13
Kingston, . . .	2,205	1,602,270	12	417	304	4	42	312	419	393	.94	26
Lakeville, . . .	912	701,355	7	168	128	-	2	126	143	133	.93	6
Marion, . . .	1,029	4,408,620	6	185	121	-	9	123	158	145	.93	9
Marshfield, . . .	1,763	1,918,000	10	239	165	5	36	166	231	213	.92	15
Mattapoisett, . . .	1,180	1,661,345	6	218	181	-	7	158	188	177	.94	13
Middleborough, . . .	6,888	4,714,868	36	1,286	920	-	187	1,099	1,286	1,218	.95	72
Norwell, . . .	1,534	919,947	7	230	181	-	38	164	230	218	.95	14
Pembroke, . . .	1,261	942,255	7	216	155	2	9	148	188	177	.94	20
Plymouth, . . .	11,119	10,865,247	51	2,089	1,499	-	187	1,444	2,027	1,929	.95	84

## SUFFOLK COUNTY.

Plympton, . . .	514	375,762	3	94	62	79	1	2	56	72	66	.92	8
Rochester, . . .	1,181	643,366	7	148	106	159	—	4	125	143	126	.88	4
Rockland, . . .	6,287	3,972,659	25	1,046	732	1,169	11	143	754	1,127	1,068	.95	63
Scituate, . . .	2,597	4,475,660	12	434	346	514	8	62	346	464	423	.90	24
Wareham, . . .	3,660	4,711,228	21	661	471	690	—	94	458	648	593	.92	35
West Bridgewater, . . .	2,006	1,271,348	12	409	307	392	1	7	280	369	341	.92	18
Whitman, . . .	6,521	4,873,348	28	1,144	838	1,336	7	132	867	1,254	1,197	.95	79
Totals, . . .	127,932	\$115,325,701	583	21,898	15,530	23,963	105	2,617	15,872	22,233	20,851	.94	1,238

Boston, . . .	595,380	\$1,347,948,227	1,982	115,527	77,127	111,721	3,208	10,430	62,161	98,067	89,535	.91	6,089
Chelsea, . . .	37,289	24,041,350	96	5,554	4,606	5,345	—	623	3,580	4,595	4,219	.91	287
Revere, . . .	12,659	15,683,550	81	3,273	2,304	3,877	7	365	2,503	3,490	3,240	.93	187
Winthrop, . . .	7,034	11,993,600	35	1,647	1,319	1,786	—	347	1,198	1,641	1,484	.91	116
Totals, . . .	652,362	\$1,399,666,727	2,194	126,001	85,356	122,729	3,215	11,765	69,442	107,793	98,478	.91	6,679

## PLYMOUTH COUNTY — CONTINUED.

TOWNS AND CITIES.	TEACHERS AND TEACHERS' WAGES.				LENGTH OF SCHOOLING.			HIGH SCHOOLS.								
	NUMBER OF TEACHERS REQUIRED BY THE PUBLIC SCHOOLS.		NUMBER OF TEACHERS WHO HAVE GRADUATED FROM COLLEGE.		Average wages per month of male teachers.	Average wages per month of female teachers.	Aggregate of months all the public schools have been kept during the school year.	Average number of months public schools have been kept during the year.	No. of high schools.	No. of teachers.	No. of pupils.	No. of pupils admitted to the freshman class.	No. of graduates.	Length of schooling.	Expenditures for high school support.	
	Men.	Women.	In high schools.	In elementary schools.												
Abington, . . . . .	4	25	8	—	21	\$126 37	\$61 53	182-1	9-2	1	9	256	48	28	9-14	\$10,338 57
Bridgewater, . . . . .	2	29	6	—	25	190 00	66 95	212-2	8-9	1	6	125	57	23	9-10	8,200 00
Brockton, . . . . .	22	234	31	—	147	175 87	62 93	1,789-7	9	1	41	1,108	420	172	9-5	54,805 61
Carver, . . . . .	1	10	—	—	9	90 00	40 40	88-18	8-9	1	2	9	4	2	9-16	200 00
Duxbury, . . . . .	2	11	1	—	4	87 50	46 10	102-3	9-6	1	3	42	21	7	9-18	3,066 36
E. Bridgewater, . . . . .	2	17	3	—	12	98 88	44 79	149-2	8-15	1	3	74	32	9	9-14	3,054 00
Halifax, . . . . .	—	3	—	—	1	—	46 18	25-10	8-10	—	—	—	—	—	—	—
Hanover, . . . . .	2	11	3	1	4	85 50	45 94	103-15	9-8	1	3	63	9	10	9-13	2,555 40
Hanson, . . . . .	3	7	—	2	6	51 44	40 56	87-5	8-14	—	—	—	—	—	—	—
Hingham, . . . . .	4	23	7	2	15	140 00	55 43	200	10	1	7	199	52	32	10	8,560 59
Hull, . . . . .	2	6	—	1	7	100 00	56 25	76-8	9-11	—	—	—	—	—	—	—
Kingston, . . . . .	1	14	3	—	6	110 00	46 00	107-16	9	1	4	67	23	14	9-8	3,502 01
Lakeville, . . . . .	—	7	—	1	6	—	45 85	59-9	8-10	—	—	—	—	—	—	—
Marion, . . . . .	1	6	—	1	3	64 20	43 81	52-18	8-16	1	6	61	20	10	9-7	10,000 00
Marshfield, . . . . .	1	10	2	—	8	100 00	44 00	87-17	8-16	1	2	51	17	6	9-15	2,557 32
Mattapoisett, . . . . .	—	6	—	—	4	—	51 21	55-8	9-3	—	—	—	—	—	—	—
Middleborough, . . . . .	5	38	5	—	8	128 00	44 13	333-15	9-5	1	8	184	65	29	9-15	8,875 00
Norwell, . . . . .	1	8	3	—	3	95 00	43 38	67	9-11	1	3	62	13	8	10	3,295 38
Pembroke, . . . . .	1	8	3	—	3	90 00	39 00	64-13	9-5	1	3	32	13	1	9-12	3,099 31
Plymouth, . . . . .	4	54	7	1	26	120 00	55 28	491-17	9-13	1	7	205	74	25	9-17	8,900 00

Plympton, . . .	3	—	—	—	3	—	46 66	27-5	9-2	—	—	—	—	—	—	—	—
Rochester, . . .	7	—	—	—	—	—	43 71	62-10	8-18	—	—	—	—	—	—	—	—
Rockland, . . .	27	4	5	—	11	—	61 73	236-7	9-9	1	7	196	74	32	10	9-13	6,950 52
Saiteau, . . .	13	1	4	—	3	—	58 38	120	10	1	3	88	36	10	10	10	3,963 17
Wareham, . . .	22	2	3	—	9	—	46 89	190	9-1	1	4	100	35	7	10	8-9	5,132 76
W. Bridgewater, . . .	12	—	—	—	8	—	47 48	103-1	8-15	1*	8	30	9	5	—	—	—
Whitman, . . .	33	2	7	—	19	—	55 95	261-10	9-7	1	7	169	81	26	9-9	9-9	7,756 10
Totals,	67	644	101	12	371	\$130 73	\$55 95	5,330-17	9-3	20	136	3,121	1,103	456	9-12	9-12	\$154,812 10

## SUFFOLK COUNTY — CONTINUED.

Boston, . . .	338 <sup>4</sup>	2,254 <sup>6</sup>	221	118	1,964	\$193 20 <sup>4</sup>	\$73 78 <sup>1</sup>	18,928	9-11	15	366	11,083	5,142	957	142-10	142-10	\$862,923 89
Chelsea, . . .	8	130	12	—	64	161 88	69 84	878-8	9-3	1	19	506	172	82	9	9	22,711 50
Revere, . . .	3	94	8	4	35	143 33	61 62	770-12	9-10	1	12	353	170	34	9-11	9-11	20,065 66
Winthrop, . . .	5	44	9	1	28	152 50	65 88	318-12	9-8	1	10	247	112	24	9-8	9-8	13,200 00
Totals,	354	2,522	250	123	2,091	\$191 49	\$72 98	20,895-12	9-10	18	407	12,189	5,596	1,097	9-9	9-9	\$918,901 05

<sup>1</sup> Partridge Academy.<sup>2</sup> Tabor Academy.<sup>3</sup> Howard Seminary.<sup>4</sup> Figures for previous year.

## PLYMOUTH COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR THE SUPPORT OF PUBLIC SCHOOLS.							Total expenditure for the support of public schools, being the total of the seven preceding columns.	Amount included in the total expenditure as given in the preceding column, but derived from other sources than local taxation, such as aid from the State, voluntary contributions, income from local funds, etc.	Amount raised by local taxation and expended for the support of public schools, being the total diminished by contributions from other sources than local taxation.
	Teachers' wages.	Conveyance of pupils.	Fuel and care of school premises.	School committee, including clerical aid and truant service.	Superintendent and assistants.	Text-books and school supplies.	School sundries.			
Abington, . . . . .	\$18,913 79	\$890 00	\$3,261 44	\$350 00	\$1,033 32	\$2,089 33	\$1,496 88	\$28,034 76	\$1,151 50	\$26,883 26
Bridgewater, . . . . .	24,743 95	1,524 55	2,257 59	—	1,033 35	1,437 31	395 22	31,391 97	7,776 52	23,615 45
Brookton, . . . . .	194,409 07	125 00	30,380 68	2,500 00	4,050 00	9,323 07	8,636 12	249,423 94	756 15	248,667 79
Carver, . . . . .	4,607 30	678 50	445 03	123 75	600 00	379 18	34 00	6,867 76	2,621 75	4,246 01
Duxbury, . . . . .	6,290 45	825 85	1,680 77	142 70	539 96	646 21	19 15	10,145 09	519 47	9,625 62
E. Bridgewater, . . . . .	9,504 73	650 00	2,122 57	—	700 00	724 07	597 48	14,298 85	2,326 49	11,972 36
Halifax, . . . . .	1,339 00	1,121 80	150 47	11 00	220 00	70 77	102 31	3,015 35	1,304 26	1,711 09
Hanover, . . . . .	6,965 57	983 00	915 35	130 00	516 80	639 63	68 21	10,218 56	1,442 78	8,775 78
Hanson, . . . . .	4,076 40	296 52	683 58	191 08	475 00	480 00	223 57	6,426 15	1,601 65	4,824 50
Hingham, . . . . .	17,476 25	960 00	4,853 04	115 00	1,300 00	1,781 60	1,642 43	28,128 32	1,551 70	26,576 62
Hull, . . . . .	5,531 35	2,040 00	2,091 94	235 00	270 00	417 31	1,035 69	11,621 29	—	11,621 29
Kingston, . . . . .	7,775 00	557 00	1,752 30	134 25	660 00	787 92	535 14	12,201 61	2,154 95	10,046 66
Lakeville, . . . . .	3,668 62	1,117 85	254 26	148 00	450 00	251 68	108 29	5,998 70	2,224 80	3,773 90
Marion, . . . . .	3,582 50	657 00	736 32	252 00	653 32	819 95	178 28	6,879 37	978 70	5,900 67
Marshfield, . . . . .	5,339 96	1,781 65	538 00	173 50	543 29	454 75	236 51	9,067 66	1,391 72	7,675 94
Mattapoisett, . . . . .	3,430 96	1,419 50	1,019 50	90 60	387 48	296 38	149 43	6,793 85	1,077 14	5,716 71
Middleborough, . . . . .	21,558 00	2,091 55	4,489 24	150 00	2,100 00	1,822 54	758 53	32,969 86	1,453 64	31,516 22
Norwell, . . . . .	4,485 00	3,145 00	702 50	104 50	500 00	415 38	92 80	9,445 18	2,390 57	7,054 61
Pembroke, . . . . .	4,242 32	1,270 00	681 98	80 00	550 00	353 01	222 81	7,400 12	2,244 52	5,155 60
Plymouth, . . . . .	36,019 52	1,213 75	7,138 68	100 00	2,000 00	3,367 68	1,244 46	51,084 09	18 25	51,065 84

Plympton, <sup>1</sup>	.	1,360 50	64 80	199 71	50 00	201 67	122 00	62 15	2,060 83	1,034 09	1,026 74
Rockester,	.	3,777 00	360 00	242 98	58 25	450 00	265 99	84 70	3,238 92	2,350 36	2,888 56
Rockland,	.	20,524 75	55 25	3,994 24	9 51	1,500 00	1,624 08	562 04	28,269 87	285 19	27,984 68
Scituate,	.	9,362 50	3,784 70	2,500 93	260 00	539 97	847 44	495 63	17,791 17	101 00	17,690 17
Wareham,	.	12,444 24	1,350 10	2,719 24	319 69	1,037 50	1,842 68	449 31	20,162 76	1,167 61	18,995 15
W. Bridgewater,	.	5,367 15	806 14	1,293 18	78 50	549 49	568 34	278 58	8,941 38	1,319 36	7,592 02
Whitman,	.	21,078 43	3 00	5,094 27	138 00	1,500 00	2,438 49	1,248 07	31,500 26	1,054 96	30,445 30
Totals,	.	\$457,874 31	\$29,772 51	\$82,199 79	\$5,945 33	\$24,361 15	\$34,266 79	\$20,957 79	\$655,377 67	\$42,329 13	\$613,048 54

## SUFFOLK COUNTY — CONTINUED.

Boston,	.	\$3,093,876 85	\$530 02	\$417,568 42	\$70,748 73	\$33,000 00	\$161,834 51	\$195,966 90	\$3,973,525 43	\$46,229 93	\$3,927,295 50
Chelsea,	.	104,603 38	—	15,943 20	2,641 66	2,800 00	7,759 49	3,328 17	137,075 90	46 04	137,029 26
Revere,	.	66,726 73	318 00	16,682 52	1,150 00	2,441 65	10,136 54	7,397 39	104,852 83	86 00	104,766 83
Winthrop,	.	37,224 56	270 00	7,596 00	125 00	2,220 00	4,835 82	3,753 45	56,024 83	—	56,024 83
Totals,	.	\$3,302,431 52	\$1,118 02	\$457,790 14	\$74,665 39	\$40,461 65	\$184,566 36	\$210,445 91	\$4,271,478 99	\$46,362 57	\$4,225,116 42

<sup>1</sup> Financial returns cover a period of eleven months only.

## PLYMOUTH COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR SCHOOL BUILDINGS.			Amount included in the total expenditure for school buildings as given in the preceding column, but derived from other sources than local taxation.	Amount raised by local taxation and expended for school buildings, that is, for all school purposes.	LOCAL FUNDS WHOSE INCOME MUST BE APPROPRIATED TO THE PUBLIC SCHOOLS.		Dog tax and other income voluntarily appropriated to the public schools.
	New schoolhouses.	Alterations and permanent repairs.	Ordinary repairs.			Principal.	Income.	
Abington, . . . . .	-	-	\$1,011 38	\$1,011 38	\$27,894 64	-	-	-
Bridgewater, . . . . .	-	-	619 44	649 44	24,264 89	\$6,300 00	\$287 02	\$764 63
Brookton, . . . . .	\$30,645 92	-	13,812 00	44,457 92	293,125 71	-	-	1,807 77
Carver, . . . . .	-	-	52 09	52 09	4,298 10	8,500 00	350 00	-
Duxbury, . . . . .	-	-	344 49	344 49	9,970 11	-	-	327 31
E. Bridgewater, . . . . .	-	\$411 50	321 61	733 11	12,705 47	-	-	649 48
Halifax, . . . . .	-	122 93	-	122 93	1,834 02	-	-	27 37
Hanover, . . . . .	-	54 13	397 88	452 01	9,227 79	-	-	339 25
Hingham, . . . . .	-	232 04	152 38	384 42	5,208 92	-	-	-
Hull, . . . . .	-	3,992 37	-	3,992 37	30,568 99	1,000 00	40 40	671 15
Kingston, . . . . .	5,300 67	-	1,111 26	1,111 26	12,732 55	-	-	-
Lakeville, . . . . .	-	-	3,992 37	5,806 56	15,853 22	-	-	468 33
Marion, . . . . .	-	752 99	505 89	97 32	6,871 22	-	-	-
Marshfield, . . . . .	-	-	73 53	826 52	7,727 19	-	-	252 46
Mattapoisett, . . . . .	-	-	186 41	186 41	7,802 35	-	-	433 03
Middleborough, . . . . .	-	150 00	246 64	396 64	6,113 35	10,778 69	386 80	-
Norwell, . . . . .	-	396 00	1,526 08	1,922 08	33,438 30	-	-	-
Pembroke, . . . . .	-	192 34	34 18	226 52	7,281 13	-	-	344 14
Plymouth, . . . . .	-	-	184 67	184 67	5,340 27	-	-	130 25
	-	-	3,645 58	3,645 58	54,711 42	365 00	18 25	-



Plympton, <sup>1</sup>	.	1,957 47	21 00	25 00	2,003 47	—	2,003 47	3,030 21	—	—	114 28
Rochester,	.	—	—	245 53	245 53	137 97	107 56	2,996 12	—	352 17	279 71
Rockland,	.	60,000 00	1,815 95	945 21	62,761 16	—	62,761 16	90,745 84	—	—	—
Scituate,	.	—	999 20	874 02	1,873 22	—	1,873 22	19,563 39	—	—	393 99
Wareham,	.	5,256 46	4,164 21	519 45	9,940 12	37 90	9,902 22	28,897 37	—	—	—
W. Bridgewater,	.	—	54 10	279 30	333 40	—	333 40	7,925 42	—	—	—
Whitman,	.	—	1,237 00	1,140 79	2,377 79	—	2,377 79	32,823 09	—	—	826 22
Totals,	.	\$103,160 52	\$14,595 76	\$28,382 13	\$146,138 41	\$175 87	\$145,962 54	\$759,011 08	\$33,943 69	\$1,434 04	\$7,829 37

## SUFFOLK COUNTY — CONTINUED.

Boston,	.	\$794,548 05	\$342,975 30	—	\$1,137,523 35	—	\$1,137,523 35	\$5,064,818 85	\$133,195 50	\$8,770 65	\$26,492 70
Chelsea,	.	336,430 42	6,332 93	\$6,118 07	348,881 42	—	348,881 42	483,910 68	—	—	—
Revere,	.	961 49	1,807 10	4,012 08	6,780 67	—	6,780 67	111,547 50	—	—	2,896 81
Winthrop,	.	—	10 35	1,026 61	1,036 96	—	1,036 96	57,061 79	—	—	963 10
Totals,	.	\$1,131,939 96	\$351,125 68	\$11,156 76	\$1,494,222 40	—	\$1,494,222 40	\$5,719,338 82	\$133,195 50	\$8,770 65	\$30,352 61

<sup>1</sup> Financial returns cover a period of eleven months only.

## PLYMOUTH COUNTY — CONCLUDED.

TOWNS AND CITIES.	Town's share of school fund income paid Jan. 25, 1910.	Amount of voluntary contributions expended on the public schools but not included in expenditures by the town or city.	ACADEMIES AND PRIVATE SCHOOLS.				ESTIMATED AMOUNT OF TUITION PAID IN —		FUNDS WHOSE INCOME MUST BE APPROPRIATED TO ACADEMIES OR PRIVATE SCHOOLS.	
			No. of academies.	No. of different academy pupils attending during the year.	No. of private schools.	No. of different private school pupils attending during the year.	Academies.	Private schools.	Principal.	Income.
Abington, .	-	-	-	-	-	-	-	-	-	-
Bridgewater, .	-	-	-	-	-	-	-	-	-	-
Brookton, .	-	\$300 00	-	-	-	-	-	\$9,220 00	\$5,000 00	-
Carver, .	\$736 68	-	-	-	-	-	-	-	-	-
Duxbury, .	563 90	-	-	-	-	-	-	-	-	-
E. Bridgewater, .	883 35	-	-	-	-	-	-	-	-	-
Halifax, .	886 68	45 00	-	-	-	-	-	-	-	-
Hanover, .	883 35	-	-	-	-	-	-	-	-	-
Hanson, .	883 35	-	-	-	-	-	-	-	-	-
Hingham, .	-	-	-	-	-	-	-	-	-	-
Hull, .	-	-	-	-	-	-	-	-	-	-
Kingston, .	1,127 80	-	-	-	-	-	-	-	-	-
Lakeville, .	1,033 35	-	-	-	-	-	-	-	-	-
Marion, .	-	-	-	-	-	-	-	-	-	-
Marshfield, .	883 35	-	-	-	-	-	-	-	-	-
Mattapoisett, .	883 35	-	-	-	-	-	-	-	-	-
Middleborough, .	-	-	-	-	-	-	-	-	-	-
Norwell, .	1,277 80	-	-	-	-	-	-	-	-	-
Pembroke, .	1,033 35	-	-	-	-	-	-	-	-	-
Plymouth, .	-	-	1	28	-	-	-	-	240,000 00	10,000 00

Plympton,	.	.	500 00	-	-	-	-	-	-	-
Rochester,	.	.	886 68	-	-	-	-	-	-	-
Rockland,	.	.	-	-	-	-	-	-	-	-
Sutuate,	.	.	-	-	-	-	-	-	-	-
Wareham,	.	.	-	-	-	-	-	-	-	-
W. Bridgewater,	.	.	883 35	-	-	1	48	-	146,316 35	5,996 43
Whitman,	.	.	-	-	-	1	17	-	-	-
Totals,	.	.	\$13,346 34	\$345 00	1	28	6	1,113	\$421,316 35	\$16,746 43

SUFFOLK COUNTY — CONCLUDED.

Boston,	.	.	—		554	80	23,353	\$30,051 38	\$434,667 91	\$4,560,500 26	\$158,838 28
Chelsea,	.	.	—		—	1	906	—	—	—	—
Revere,	.	.	—		—	—	—	—	—	—	—
Winthrop,	.	.	—		—	—	—	—	—	—	—
Totals,	.	.	—		554	81	24,259	\$30,051 38	\$434,667 91	\$4,560,500 26	\$158,838 28

## WORCESTER COUNTY.

TOWNS AND CITIES.	Population — State Census of 1905.	Valuation — May 1, 1909.	No. of public schools.	SCHOOL CENSUS DATA SEPT. 1, 1909.		SCHOOL MEMBERSHIP, ATTENDANCE AND GRADUATION DATA FOR THE SCHOOL YEAR.						
				No. of persons in towns between 5 and 15 years of age.	No. of persons in towns between 7 and 14 years of age.	No. of different pupils with- in the year under 5 years of age.	No. of different pupils with- in the year over 15 years of age.	No. of different pupils with- in the year between 7 and 14 years of age.	Average membership of all the schools.	Average attendance of all the schools.	Percentage of attendance based on average mem- bership.	No. graduated from gram- mar schools.
Ashburnham, .	1,851	\$960,691	11	356	262	—	68	257	348	322	.93	21
Athol, .	7,197	4,569,500	28	1,256	1,020	—	162	907	1,195	1,114	.93	60
Auburn, .	2,006	1,231,500	13	506	404	2	8	361	402	365	.91	12
Barre, .	2,558	1,852,997	13	462	340	1	52	298	401	357	.89	15
Berlin, .	906	554,040	5	169	156	—	6	119	151	140	.93	14
Blackstone, .	5,786	2,270,236	26	1,139	919	17	63	939	1,159	1,092	.94	53
Bolton, .	762	497,860	4	111	81	—	13	87	115	103	.90	9
Boylston, .	649	482,638	4	137	99	1	1	91	125	117	.94	—
Brookfield, .	2,388	1,271,436	16	377	268	1	33	254	346	323	.93	23
Charlton, .	2,089	1,292,945	15	359	273	7	22	306	347	314	.91	34
Clinton, .	13,105	8,274,087	47	2,411	1,665	—	200	1,359	1,916	1,808	.94	103
Dana, .	763	394,242	5	121	92	1	4	103	110	100	.91	4
Douglas, .	2,120	1,233,795	10	332	278	2	29	262	323	294	.91	13
Dudley, .	3,818	1,715,665	15	842	590	3	8	348	387	349	.90	10
Fireburg, .	33,021	28,571,313	106	6,929	4,910	28	447	2,887	4,029	3,818	.95	231
Gardner, .	12,012	7,677,705	41	2,299	1,792	7	268	1,176	1,749	1,636	.94	67
Grafton, .	5,052	2,669,695	21	926	647	—	73	650	833	785	.94	40
Hardwick, .	3,261	1,829,470	14	578	441	3	52	291	372	341	.93	24
Harvard, .	1,077	1,233,711	4	182	136	—	5	115	126	116	.92	18
Holden, .	2,640	1,629,967	16	401	280	—	7	310	431	395	.91	31
Hopedale, .	2,048	5,240,295	12	354	266	25	56	270	410	388	.95	31
Hubbardston, .	1,205	689,615	8	198	218	1	21	148	189	172	.91	15
Lancaster, .	2,406	4,142,080	12	375	266	—	38	221	297	273	.92	6
Leicester, .	3,414	2,413,624	20	738	581	2	68	508	644	602	.94	42

	14,297	11,972,130	52	2,919	2,102	2,456	9	261	1,519	2,124	1,955	.92	116
Leominster, . . . . .	1,293	1,102,655	9	212	186	236	-	29	153	220	207	.93	8
Lunenburg, . . . . .	1,293	1,102,655	9	212	186	236	-	29	153	220	207	.93	8
Mendon, . . . . .	1,293	1,102,655	9	212	186	236	-	29	153	220	207	.93	8
Milford, . . . . .	12,105	8,713,112	45	140	116	157	-	18	111	130	140	.94	9
Millbury, . . . . .	4,631	2,293,295	19	920	1,583	2,093	14	186	1,329	1,895	1,824	.96	53
New Braintree, . . . . .	477	396,685	5	100	72	87	-	77	564	755	708	.94	38
Northborough, . . . . .	1,947	1,355,811	9	313	267	340	-	47	238	313	285	.91	21
Northbridge, . . . . .	7,400	4,360,943	35	1,637	1,210	1,667	-	110	1,232	1,434	1,363	.96	56
North Brookfield, . . . . .	2,617	1,617,985	10	500	326	415	1	65	267	374	353	.94	25
Oakham, . . . . .	519	379,992	5	111	61	118	-	4	60	100	92	.93	9
Oxford, . . . . .	2,927	1,938,120	19	573	508	623	-	56	408	559	523	.94	27
Paxton, . . . . .	444	332,965	3	81	65	79	1	-	63	76	69	.91	2
Petersham, . . . . .	855	902,181	6	146	118	173	2	26	105	149	136	.92	4
Phillipston, . . . . .	442	283,860	4	81	68	89	-	1	67	75	68	.92	5
Princeton, . . . . .	907	1,097,179	8	147	111	155	-	8	103	141	129	.91	7
Royalston, . . . . .	903	570,465	7	130	109	171	-	8	127	141	127	.90	10
Rutland, . . . . .	1,713	721,176	6	208	175	233	-	22	173	209	185	.88	-
Shrewsbury, . . . . .	1,866	1,632,669	11	277	195	330	1	51	217	287	265	.92	18
Southborough, . . . . .	1,931	1,833,898	9	309	213	338	3	46	208	314	288	.92	19
Southbridge, . . . . .	11,000	5,698,528	30	2,173	1,766	1,348	11	132	807	1,157	1,082	.93	38
Spencer, . . . . .	7,121	3,541,040	27	1,151	825	887	14	87	625	801	747	.94	46
Sterling, . . . . .	1,315	1,132,690	10	200	172	243	1	28	168	220	199	.90	7
Sturbridge, . . . . .	1,974	1,066,625	12	368	257	339	-	4	277	276	251	.90	11
Sutton, . . . . .	3,173	1,290,855	16	736	617	555	2	15	410	443	400	.90	13
Templeton, . . . . .	3,783	1,586,524	17	707	504	665	2	58	423	599	562	.92	29
Upton, . . . . .	2,024	1,110,924	9	306	206	337	-	49	238	322	300	.94	28
Uxbridge, . . . . .	3,881	2,850,585	26	861	590	950	63	63	626	829	771	.93	24
Warren, . . . . .	4,300	1,923,967	17	736	510	666	6	100	407	583	547	.94	34
Webster, . . . . .	10,018	7,407,290	22	2,140	1,918	1,030	3	95	641	842	786	.93	48
Westborough, . . . . .	5,378	3,265,159	15	662	481	869	4	119	514	714	666	.93	44
West Boylston, . . . . .	1,571	779,713	7	190	159	237	1	34	144	151	196	.92	11
West Brookfield, . . . . .	1,384	912,331	7	209	151	183	6	5	135	164	151	.92	12
Westminster, . . . . .	1,348	785,235	12	250	195	278	-	25	205	261	244	.94	16
Winchendon, . . . . .	5,933	4,111,250	28	1,161	711	1,116	-	114	827	992	921	.93	30
Worcester, . . . . .	128,135	133,384,202	483	21,349	15,443	22,645	106	2,593	14,880	19,957	18,232	.91	742
Totals, . . . . .	362,668	\$295,779,839	1,472	65,818	48,644	61,178	298	6,240	40,730	54,175	50,108	.92	2,439

WORCESTER COUNTY—CONTINUED.

TOWNS AND CITIES.	TEACHERS AND TEACHERS' WAGES.				LENGTH OF SCHOOLING.				HIGH SCHOOLS.								
	NUMBER OF TEACHERS REQUIRED BY THE PUBLIC SCHOOLS.		NUMBER OF TEACHERS WHO HAVE GRADUATED FROM COLLEGE.		No. of teachers who have graduated from normal schools.	Average wages per month of male teachers.	Average wages per month of female teachers.	Aggregate of months all the public schools have been kept during the year.	Average number of months public schools have been kept during the year.	No. of high schools.	No. of teachers.	No. of pupils.	No. of pupils admitted to the freshman class.	No. of graduates.	Length of schooling.	Expenditures for high school support.	
			In high schools.	In elementary schools.													
	Men.	Women.	In high schools.	In elementary schools.													
Ashburnham, . . . . .	1	9	—	—	5	\$60 00	\$40 88	95-5	8-13	1	—	69	21	—	8	9-10	\$1,718 35
Atchafalaya, . . . . .	3	31	5	1	12	112 89	49 00	252-6	9	1	7	175	72	—	24	9-11	7,250 00
Auburn, . . . . .	—	13	—	—	5	—	41 69	116-10	8-18	—	—	—	—	—	—	—	—
Barre, . . . . .	1	15	3	1	13	122 30	44 49	118-15	9-2	1	4	62	21	—	11	9-19	3,678 90
Berlin, . . . . .	—	7	—	—	1	—	37 14	43-14	8-14	—	—	—	—	—	—	—	—
Blackstone, . . . . .	1	33	2	—	3	100 00	46 00	253	9-15	1	3	96	53	—	14	10	2,600 00
Bolton, . . . . .	1	4	2	—	3	60 00	45 50	36-9	9-2	1	2	17	9	—	2	9-18	1,249 03
Boylston, . . . . .	—	4	—	—	3	—	48 00	37-4	9-6	—	—	—	—	—	—	—	—
Brookfield, . . . . .	1	16	3	2	6	120 00	43 25	144	9	1	3	32	7	—	5	10	2,324 37
Brookfield, . . . . .	1	15	2	—	3	100 00	38 00	126-4	8-8	1	2	38	15	—	12	9-15	1,947 16
Charlton, . . . . .	4	55	7	—	13	130 00	57 26	436-5	9-5	1	9	238	96	—	41	9-12	9,550 00
Clinton, . . . . .	—	—	—	—	—	—	42 73	44-1	8-16	—	—	—	—	—	—	—	—
Dana, . . . . .	—	5	—	1	3	—	45 55	89-9	8-19	1	2	37	11	—	4	9-17	1,447 82
Douglas, . . . . .	1	11	2	1	3	85 00	45 55	89-9	8-19	1	2	37	11	—	4	9-17	1,447 82
Dudley, . . . . .	3	16	3	—	6	100 00	39 25	133-15	8-18	1	3	18	9	—	5	9-17	1,438 00
Fitchburg, . . . . .	18	112	23	4	66	127 00	63 95	1,017-6	9-12	1	28	696	246	—	71	9-14	34,500 00
Gardner, . . . . .	3	51	10	—	23	147 50	56 29	365	8-18	1	12	329	78	—	46	9-16	15,116 00
Grafton, . . . . .	1	24	5	—	15	152 61	51 33	183-18	8-15	1	5	129	45	—	16	9-5	6,811 48
Hardwick, . . . . .	2	15	3	1	10	88 16	43 27	124-7	8-17	1	4	62	23	—	13	9-14	4,130 12
Harvard, . . . . .	—	4	—	—	4	—	50 47	37	9-5	1	—	—	—	—	—	—	—
Harvard, . . . . .	—	4	—	—	8	71 84	37 39	139	9-5	1	3	53	23	—	10	8-19	4,000 00
Holden, . . . . .	2	16	2	—	8	130 00	61 00	106-16	8-15	1	3	75	16	—	8	9-15	2,462 90
Hopedale, . . . . .	1	13	3	1	4	68 00	39 00	69	8-18	1	3	52	17	—	8	9-13	3,935 00
Hubbardston, . . . . .	1	7	1	—	3	68 00	39 00	69	8-12	1	1	18	11	—	5	9-4	840 00
Lancaster, . . . . .	2	14	3	—	6	140 00	53 26	110-10	9-4	1	1	56	18	—	6	9-14	3,670 00
Leicester, . . . . .	2	22	4	1	11	100 00	46 00	184-16	8-16	1	4	82	27	—	14	9-13	4,000 00

## SCHOOL RETURNS.

LXXXV

	8	69	9	-	45	136 00	56 43	480-15	9-5	1	12	323	116	40	9-13	16,700 00
Leominster,	1	9	1	1	8	80 00	43 33	79-18	8-18	1	2	45	9	10	10	1,770 50
Lunenburg,	1	6	1	-	2	85 00	43 00	53-18	8-19	1	2	32	13	4	9-16	1,925 00
Mendon,	1	5	5	-	29	150 00	51 50	404-7	8-19	1	6	185	81	29	9-14	7,308 00
Millbury,	4	20	4	1	15	80 25	41 95	164-7	8-13	1	4	112	41	19	9-10	4,102 72
New Braintree,	1	5	-	-	3	-	36 50	43-15	8-15	-	-	-	-	-	-	-
Northborough,	1	10	2	-	8	100 00	42 80	78-15	8-15	1	2	33	16	4	9-17	1,609 30
Northbridge,	1	39	5	2	25	160 00	50 87	333	9-10	1	6	129	54	18	10	5,480 00
North Brookfield,	1	12	2	1	2	110 00	44 36	91-6	9-2	1	3	63	29	15	9-15	2,870 93
Oakham,	1	5	-	-	1	-	40 00	40	8	-	-	-	-	-	-	-
Oxford,	1	20	3	-	16	110 00	43 65	166-6	8-15	1	3	74	27	6	9-14	3,073 54
Paxton,	1	3	-	-	1	-	42 67	28-10	9-10	-	-	-	-	-	-	-
Petersham,	1	7	2	-	4	100 00	51 52	53-10	8-18	1	3	44	5	4	10	3,075 00
Phillipston,	1	4	-	-	3	-	41 00	37-11	9-7	-	-	-	-	-	-	-
Princeton,	1	8	2	-	4	75 00	39 27	67-15	8-9	1	2	36	7	5	9-10	1,854 03
Royalston,	1	6	-	-	1	56 00	43 50	52-11	8-18	-	-	-	-	-	-	-
Rutland,	1	6	2	-	-	84 00	40 00	52-6	8-7	1	2	25	-	7	9-17	1,476 40
Shrewsbury,	1	12	2	-	6	100 00	39 65	96-15	8-15	1	2	42	14	8	9-12	2,073 08
Southborough,	1	11	2	-	10	115 00	47 90	80-8	8-18	1	3	42	16	4	9-12	3,007 75
Southbridge,	2	37	5	-	9	107 50	47 66	292-5	9-14	1	5	127	36	26	9-15	5,026 83
Spencer,	3	27	3	-	7	99 59	46 53	248-5	9-4	1	4	100	32	18	9-12	5,550 00
Sterling,	1	10	2	-	6	85 00	35 10	88-4	8-16	1	2	51	14	5	9-3	1,700 00
Sturbridge,	1	12	1	-	-	-	39 00	114	9-10	-	-	-	-	-	-	-
Sutton,	1	16	2	1	5	68 00	36 84	145	9-1	1	2	27	10	-	10	1,416 00
Templeton,	1	16	2	3	-	100 00	37 89	137-4	8-11	1	3	62	22	10	9-15	2,577 07
Upton,	1	7	3	-	7	92 10	41 20	77-15	8-13	1	3	79	22	9	9-4	2,516 45
Uxbridge,	1	29	3	1	11	140 00	43 24	232	8-18	1	3	66	23	8	10	4,500 00
Warren,	2	18	4	-	10	111 84	44 61	151-8	8-18	1	4	113	46	19	9-16	4,608 96
Webster,	2	32	6	1	10	120 00	47 76	216-3	9-16	1	6	135	28	13	9-17	6,908 37
Westborough,	2	17	4	-	8	95 00	59 48	128-18	8-12	1	4	96	40	10	9-11	4,778 57
West Boylston,	2	7	2	-	3	130 00	51 74	64-11	9-4	1	2	34	14	11	9-15	3,087 76
West Brookfield,	1	7	-	-	3	-	41 14	63	9	-	-	-	-	-	-	-
Westminster,	-	12	-	-	4	-	36 17	97	8-1	1	1	26	12	4	9	700 00
Winchendon,	2	36	6	-	94	150 00	49 20	244-15	8-14	1	6	154	38	9	9-13	8,279 00
Worcester,	70	602	77	19	494	161 38	68 38	4,830	10	3	95	2,476	626	293	10	135,181 12
Totals,	161	1,706	245	44	1,180	\$135 39	\$55 96	13,800-11	9-8	50	294	7,065	2,209	931	9-13	\$355,825 51

1 Bromfield School.

## WORCESTER COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR THE SUPPORT OF PUBLIC SCHOOLS.							Total expenditure for the support of public schools, being the total of the seven preceding columns.	Amount included in the total expenditure as given in the preceding column, but derived from other sources than local taxation, such as aid from the State, voluntary contributions, income from local funds, etc.	Amount raised by local taxation and expended for the support of public schools, being the total expenditure for such support diminished by contributions from other sources than local taxation.
	Teachers' wages.	Conveyance of pupils.	Fuel and care of school premises.	School committee including clerical aid and truant service.	Superintendent and assistants.	Text-books and school supplies.	School sundries.			
Ashburnham, . . .	\$5,497 55	\$253 00	\$1,069 03	\$83 15	\$552 79	\$549 60	\$120 96	\$8,126 08	\$1,476 77	\$6,649 31
Attol, . . .	19,408 40	2,261 66	4,026 52	78 25	2,000 00	2,223 10	981 57	30,979 50	1,152 90	29,826 60
Auburn, . . .	5,870 20	118 60	998 46	154 00	540 00	523 84	120 00	8,325 10	2,013 16	6,311 94
Barre, . . .	7,742 40	1,845 55	1,838 09	10 00	640 00	953 96	670 77	13,700 77	1,989 91	11,710 86
Berlin, . . .	3,806 35	346 15	719 61	74 25	257 76	172 82	77 36	5,454 30	2,850 00	2,604 30
Blackstone, . . .	14,761 35	—	3,000 00	60 00	888 88	1,199 23	75 00	19,984 46	1,052 80	18,931 66
Bolton, . . .	2,480 00	1,535 42	304 56	32 75	377 42	253 47	25 00	5,008 62	2,704 59	2,304 03
Boylston, . . .	1,966 00	2,182 00	697 86	86 00	201 19	163 13	54 24	5,350 42	2,389 05	2,961 37
Brookfield, . . .	7,784 10	118 50	1,519 73	180 00	783 34	615 40	85 40	11,086 47	1,895 30	9,191 17
Charlton, . . .	6,082 32	155 90	820 85	147 00	750 00	775 43	71 78	8,783 28	2,731 29	6,051 99
Clinton, . . .	35,995 92	—	6,726 91	1,450 00	2,000 00	4,049 35	2,374 57	52,596 75	—	52,596 75
Dana, . . .	2,793 65	771 90	851 25	160 00	453 40	151 04	56 27	5,237 51	3,029 66	2,207 85
Douglas, . . .	4,686 00	378 00	1,420 60	90 00	660 00	438 89	257 32	7,930 81	1,992 83	5,937 98
Dudley, . . .	8,234 20	—	1,511 64	98 00	700 00	1,289 34	112 99	11,946 17	1,447 02	10,499 15
Fitchburg, . . .	98,729 39	2,143 70	19,275 33	1,825 00	2,700 00	6,707 58	7,068 66	138,449 66	692 00	137,757 66
Gardner, . . .	35,084 45	1,317 50	7,111 79	36 50	2,100 00	3,711 34	1,728 27	51,069 85	100 00	50,969 85
Grafton, . . .	12,867 98	3,355 21	3,541 29	264 08	1,500 00	1,390 36	397 31	23,226 23	963 50	22,262 73
Hardwick, . . .	8,334 80	2,703 16	1,618 40	—	640 00	755 57	106 81	14,158 74	1,798 38	12,360 36
Harvard, . . .	2,062 01	3,464 25	1,618 40	105 00	471 37	340 71	119 50	7,129 84	1,635 28	5,504 56
Holden, . . .	7,801 88	402 05	1,517 89	65 00	800 00	437 36	246 49	11,270 67	1,934 80	9,335 87
Hopedale, . . .	9,105 90	275 00	2,679 97	—	566 60	845 13	939 90	14,412 50	51 55	14,360 95
Hubbardston, . . .	3,379 50	1,021 40	377 45	100 97	300 00	282 10	14 00	5,475 42	1,723 36	3,752 06
Lancaster, . . .	9,064 00	1,469 00	2,056 24	25 00	650 00	426 92	572 40	14,263 56	416 50	13,847 06
Leicester, . . .	12,071 50	1,345 00	2,655 22	110 75	750 00	1,212 98	486 34	18,631 79	3,856 45	14,775 34



Leominster, . . . . .	44,767 00	2,244 70	13,691 01	1,378 73	2,200 00	8,288 25	1,572 91	74,142 60	1,258 94	72,883 66
Lunenburg, . . . . .	4,572 75	465 25	719 97	130 50	486 00	404 13	27 68	6,806 28	1,762 81	5,133 47
Mendon, . . . . .	3,354 25	782 80	500 50	-	566 61	332 02	156 94	6,013 72	2,222 09	3,791 63
Millford, . . . . .	28,517 49	894 30	5,508 83	50 00	1,800 00	2,383 06	2,352 76	41,446 44	-	41,446 44
Millbury, . . . . .	11,581 08	678 56	2,463 08	158 80	1,140 00	1,313 94	932 46	18,268 82	1,558 35	16,710 47
New Braintree, . . . . .	1,743 00	185 10	229 55	43 71	406 25	216 92	37 53	2,862 06	1,541 68	1,320 38
Northborough, 1	4,542 75	1,240 93	1,027 90	83 33	514 08	425 30	146 00	7,980 29	957 75	7,022 54
Northbridge, . . . . .	22,587 13	1,044 48	6,444 23	36 45	750 00	1,945 06	686 93	33,494 28	137 00	33,357 28
North Brookfield, . . . . .	6,494 66	1,475 75	810 63	60 00	750 00	915 13	243 83	10,730 00	1,862 35	8,867 65
Oakham, . . . . .	1,917 00	36 40	153 10	68 83	233 75	170 93	2 00	2,582 01	1,677 90	904 11
Oxford, . . . . .	9,935 56	523 90	2,797 37	193 90	766 66	1,259 18	704 42	16,180 53	1,881 82	14,298 71
Paxton, . . . . .	1,825 27	582 50	357 77	50 00	155 04	118 33	20 23	3,109 14	1,596 87	1,512 27
Petersham, . . . . .	4,717 24	1,700 00	923 11	70 00	320 00	415 13	85 50	8,231 00	2,453 91	5,777 09
Phillipston, . . . . .	1,909 00	321 00	118 10	42 50	150 00	81 92	17 50	2,640 02	1,461 37	1,178 65
Princeton, . . . . .	3,789 77	600 00	812 45	30 00	300 00	292 61	83 00	5,907 83	1,213 85	4,693 98
Royalston, . . . . .	3,211 50	1,408 40	464 91	106 00	300 00	126 51	30 50	5,647 82	2,671 08	2,976 74
Rutland, . . . . .	2,826 20	1,579 60	604 46	65 00	389 59	299 88	97 59	5,862 32	1,906 18	3,956 14
Shrewsbury, . . . . .	5,907 35	773 75	1,133 80	165 00	471 24	816 13	352 21	9,619 48	1,814 80	7,804 68
Southborough, . . . . .	6,785 18	1,910 00	1,730 81	300 00	514 08	653 00	509 09	12,402 16	2,331 01	10,071 15
Southbridge, . . . . .	18,098 85	346 50	3,961 69	167 00	916 68	1,742 92	1,431 62	26,665 26	399 00	26,266 26
Spencer, . . . . .	15,970 96	1,040 87	3,748 32	24 91	1,618 00	1,345 15	444 30	24,192 51	441 01	23,751 50
Sterling, . . . . .	4,385 24	646 50	569 93	60 00	600 00	329 71	186 16	6,777 54	2,572 26	4,205 28
Sturbridge, . . . . .	5,365 78	1,638 50	788 93	105 54	516 71	412 16	35 00	8,862 62	1,864 76	6,997 86
Sutton, . . . . .	6,004 20	575 00	1,433 06	190 00	960 00	591 25	415 21	10,168 72	1,836 80	8,331 92
Templeton, . . . . .	7,649 25	1,378 50	1,412 79	195 00	750 00	761 29	75 00	12,221 83	1,892 35	10,329 48
Upton, . . . . .	4,835 50	1,334 44	1,283 23	11 50	500 00	598 40	124 60	8,687 67	2,188 07	6,499 60
Uxbridge, . . . . .	12,978 40	103 00	3,143 00	67 00	990 00	1,126 25	734 94	19,142 59	2,151 41	16,991 18
Warren, . . . . .	15,435 98	2,467 85	2,075 04	18 50	1,213 32	854 89	533 54	17,726 46	3,144 11	14,582 35
Webster, . . . . .	11,251 03	235 75	8,062 13	50 00	1,400 00	3,145 68	1,372 92	29,402 46	897 40	28,505 06
Westborough, . . . . .	5,218 55	2,316 50	2,512 61	50 00	600 00	784 31	625 07	18,139 52	213 09	17,926 43
West Boylston, . . . . .	3,978 00	2,104 00	1,328 68	152 50	665 00	462 46	362 68	10,293 87	2,061 10	8,232 77
West Brookfield, . . . . .	3,815 45	827 00	544 50	71 50	386 25	284 96	197 58	6,289 79	2,064 76	4,225 03
Westminster, . . . . .	18,383 17	721 00	477 74	78 00	600 00	351 92	68 25	6,112 36	1,750 82	4,361 54
Winchendon, . . . . .	532,533 50	1,428 82	5,398 58	74 57	1,172 64	2,120 30	1,673 46	30,251 54	8,383 20	21,868 34
Worcester, . . . . .		895 98	94,082 75	9,388 40	6,125 00	33,527 02	16,607 81	693,160 46	4,134 45	689,026 01
Totals, . . . . .	\$1,172,622 11	\$63,910 18	\$238,640 19	\$18,972 87	\$52,509 65	\$98,465 37	\$49,620 13	\$1,694,740 50	\$106,201 45	\$1,588,539 05

Financial returns cover a period of eleven months only.

## WORCESTER COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR SCHOOL BUILDINGS.			Total expenditure for school buildings being the total of the three preceding columns.	Amount included in the total expenditure for school buildings as given in the preceding column, but derived from other sources than local taxation.	Amount raised by local taxation and expended for school buildings.	Amount raised by local taxation and expended for support of public schools and for school purposes.	LOCAL FUNDS WHOSE INCOME MUST BE APPROPRIATED TO THE PUBLIC SCHOOLS.		Log tax and other income voluntarily appropriated to the public schools.
	New schoolhouses.	Alterations and permanent repairs.	Ordinary repairs.					Principal.	Income.	
Ashburnham,	-	\$13 50	\$273 43	\$286 93	-	\$286 93	\$6,936 24	-	-	-
Athol,	-	-	542 85	542 85	-	542 85	30,369 45	\$1,000 00	\$40 40	-
Auburn,	\$7,000 00	403 36	289 69	7,693 05	-	7,693 05	14,004 99	-	-	\$331 58
Barre,	-	49 70	85 86	135 56	-	135 56	11,846 42	-	-	330 56
Berlin,	-	-	83 70	83 70	-	83 70	2,688 00	1,500 00	60 30	-
Blackstone,	-	1,000 00	-	1,000 00	-	1,000 00	19,931 66	-	-	-
Bolton,	-	-	68 77	68 77	-	68 77	2,372 80	12,000 00	530 89	-
Boylston,	-	-	248 60	248 60	-	248 60	3,209 97	-	-	-
Brookfield,	-	264 09	35 25	299 34	-	299 34	9,490 51	-	-	302 68
Charlton,	-	-	83 51	83 51	-	83 51	6,135 50	3,000 00	120 00	516 13
Clinton,	-	233 75	3,126 40	3,360 15	-	3,360 15	55,956 90	5,060 00	150 00	-
Dana,	-	-	68 00	68 00	-	68 00	2,275 85	-	-	146 03
Douglas,	-	-	281 00	281 00	-	281 00	6,218 98	941 33	56 48	-
Dudley,	-	-	74 36	74 36	-	74 36	10,573 51	-	-	285 44
Fitchburg,	6,865 67	2,500 00	4,404 12	13,769 79	-	13,769 79	151,527 45	-	-	-
Gardner,	-	523 42	2,175 92	2,699 34	-	2,699 34	53,669 19	-	-	-
Grafton,	-	169 04	504 54	673 58	-	673 58	22,936 31	-	-	-
Hardwick,	-	-	520 91	520 91	-	520 91	12,881 27	-	-	3,629 63
Harvard,	-	-	109 78	109 78	-	109 78	5,614 34	-	-	184 77
Holden,	-	-	488 14	488 14	-	488 14	9,824 01	-	-	485 36
Hopedale,	-	278 15	363 26	641 41	-	641 41	15,002 36	3,666 66	202 00	-
Hubbardston,	-	7 40	266 19	273 59	-	273 59	4,025 65	1,200 00	72 00	-
Lancaster,	-	-	391 53	391 53	-	391 53	14,238 59	-	-	-
Leicester,	80,000 00	100 00	1,066 59	81,166 59	\$655 00	80,511 59	95,286 93	-	-	423 86

## SCHOOL RETURNS.

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	3,760 18	658 78	4,418 96	—	4,418 96	77,302 62	13,000 00	\$10 86	—
Leominster,	—	198 74	572 54	—	572 54	5,706 01	—	—	—
Lunenburg,	—	90 86	90 86	—	90 86	3,882 49	—	—	193 68
Mendon,	—	2,374 57	4,047 71	—	4,047 71	45,494 15	—	—	—
Milford,	—	630 31	692 31	—	692 31	17,402 78	—	—	—
Milbury,	—	93 65	93 65	—	93 65	1,414 03	—	—	—
New Braintree,	—	496 89	496 89	—	496 89	7,519 43	5,400 00	—	—
Northborough, <sup>1</sup>	—	3,113 72	4,338 78	—	4,338 78	37,696 06	—	—	664 34
Northbridge,	—	89 66	414 66	—	414 66	9,302 31	—	—	371 64
North Brookfield,	—	325 00	414 66	—	414 66	1,130 96	—	—	—
Oakham,	—	226 85	226 85	—	226 85	14,476 18	—	—	—
Oxford,	—	177 47	177 47	—	177 47	1,512 27	—	—	—
Paxton,	—	—	—	—	—	6,014 45	781 68	31 56	174 92
Petersham,	—	159 80	237 36	—	237 36	1,205 80	—	—	84 67
Phillipston,	—	27 15	27 15	—	27 15	4,999 97	—	50 00	232 91
Princeton,	—	305 99	305 99	—	305 99	3,228 26	6,500 00	348 68	134 36
Princeton,	—	251 52	251 52	—	251 52	4,275 91	—	—	25 00
Royalston,	—	319 77	319 77	—	319 77	8,112 13	1,000 00	40 40	—
Rutland,	—	18 00	319 77	—	319 77	15,829 13	—	—	196 46
Shrewsbury,	—	256 45	307 45	—	307 45	27,490 26	—	—	—
Southborough,	—	376 30	5,757 98	—	5,757 98	26,171 89	15,043 17	603 86	509 54
Southbridge,	—	1,150 66	1,224 00	—	1,224 00	4,690 40	—	—	—
Spencer,	—	807 03	2,420 39	—	2,420 39	7,369 35	2,000 00	114 00	332 68
Sterling,	—	90 40	485 12	—	485 12	10,759 93	10,000 00	380 00	407 55
Sturbridge,	—	371 49	371 49	—	371 49	18,249 03	46,598 76	1,587 00	408 14
Sutton,	—	320 96	2,428 01	—	2,428 01	15,596 45	—	—	320 93
Templeton,	—	524 42	524 42	—	524 42	29,245 22	—	—	617 53
Upton,	—	115 81	434 76	130 69	304 07	18,692 65	—	—	—
Uxbridge,	—	15 00	1,257 85	—	1,257 85	9,027 46	—	—	3,275 00
Warren,	—	636 61	1,014 10	—	1,014 10	4,356 92	—	—	—
Webster,	—	740 16	740 16	—	740 16	4,715 09	—	—	—
Westborough,	—	185 29	706 22	—	706 22	29,760 54	275,000 00	8,362 34	—
West Boylston,	—	452 14	794 69	—	794 69	807,713 19	2,585 41	103 32	—
West Brookfield,	—	—	131 89	—	131 89	—	—	—	—
Westminster,	—	—	353 55	—	353 55	—	—	—	—
Winchendon,	—	967 90	762 46	—	762 46	—	—	—	—
Worcester,	—	16,585 08	8,654 66	5,734 00	118,687 18	—	—	—	—
Totals,	\$185,708 51	\$63,073 27	\$283,700 87	\$7,282 15	\$276,478 72	\$1,865,017 77	\$406,217 01	\$13,664 09	\$14,585 39

<sup>1</sup> Financial returns cover a period of eleven months only.

## BOARD OF EDUCATION.

## WORCESTER COUNTY — CONCLUDED.

TOWNS AND CITIES.	Town's share of school fund income paid Jan. 25, 1910.	Amount of voluntary contributions expended on the public schools by the town or city.	ACADEMIES AND PRIVATE SCHOOLS.				ESTIMATED AMOUNT OF TUITION PAID IN —		FUNDS WHOSE INCOME MUST BE APPROPRIATED TO ACADEMIES OR PRIVATE SCHOOLS.	
			No. of academies.	No. of different academy pupils attending during the year.	No. of private schools.	No. of different private school pupils attending during the year.	Academies.	Private schools.	Principal.	Income.
Asburnham, . . . . .	\$1,033 35	-	1	156	-	-	\$9,097 00	-	\$350,000 00	\$14,400 00
Athol, . . . . .	-	-	-	-	-	-	-	-	-	-
Auburn, . . . . .	1,127 80	-	-	-	-	-	-	-	-	-
Barre, . . . . .	1,127 80	-	-	-	1	38	-	-	10,000 00	2,000 00
Berlin, . . . . .	1,277 80	-	-	-	-	-	-	-	-	-
Blackstone, . . . . .	1,052 80	-	-	-	-	-	-	-	-	-
Bolton, . . . . .	1,233 35	-	-	-	-	-	-	-	-	-
Boylston, . . . . .	1,477 80	-	-	-	-	-	-	-	-	-
Brookfield, . . . . .	1,127 80	-	-	-	-	-	-	-	-	-
Charlton, . . . . .	883 35	-	-	-	1	530	-	-	-	-
Clinton, . . . . .	-	-	-	-	-	-	-	-	-	-
Dana, . . . . .	1,552 81	-	-	-	-	-	-	-	-	-
Douglas, . . . . .	883 35	\$88 42	-	-	-	-	-	-	-	-
Dudley, . . . . .	883 35	-	1	18	-	-	-	-	26,000 00	1,360 00
Fitchburg, . . . . .	-	-	-	-	-	-	-	-	-	-
Gardner, . . . . .	-	-	-	-	1	629	-	-	22,150 00	-
Grafton, . . . . .	-	-	-	-	-	-	-	-	-	-
Hardwick, . . . . .	1,127 80	-	-	-	1	212	-	-	100,000 00	5,000 00
Harvard, . . . . .	1,127 80	-	-	-	-	-	-	-	-	-
Holden, . . . . .	1,127 80	-	-	-	-	-	-	-	-	-
Hopedale, . . . . .	-	-	-	-	-	-	-	-	-	-
Hubbardston, . . . . .	886 68	-	-	-	-	-	-	-	-	-
Lancaster, . . . . .	-	-	1	308	-	-	8,815 80	-	74,000 00	7,299 20
Leicester, . . . . .	1,052 80	20 00	-	-	1	67	-	-	-	-

## SCHOOL RETURNS.

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Leoninster,	-	-	-	1	582	-	-	-	-	80,000 00	-
Lunenburg,	883 35	-	-	-	-	-	-	-	-	-	-
Mendon,	1,277 80	-	-	-	-	-	-	-	-	-	-
Milford,	-	-	-	1	247	-	-	-	-	-	-
Milbury,	808 35	-	-	1	136	-	-	-	-	1,800 00	1,000 00
New Brantree,	1,086 68	-	-	-	-	-	-	-	-	-	-
Northborough,	883 35	-	-	-	-	-	-	-	-	-	-
Northbridge,	-	-	-	-	-	-	-	-	-	-	-
North Brookfield,	883 35	-	-	1	94	-	-	-	-	-	-
Oakham,	988 90	-	-	-	-	-	-	-	-	-	-
Oxford,	1,127 80	-	-	-	-	-	-	-	-	-	-
Paxton,	988 90	-	-	-	-	-	-	-	-	-	-
Petersham,	1,277 80	-	-	-	-	-	-	-	-	-	-
Phillipston,	1,086 68	-	-	-	-	-	-	-	-	-	-
Princeton,	883 35	-	-	-	-	-	-	-	-	-	-
Royalston,	1,477 80	-	-	-	-	-	-	-	-	-	-
Rutland,	886 68	-	-	-	-	-	-	-	-	-	-
Shrewsbury,	1,127 80	-	-	-	-	-	-	-	-	-	-
Southborough,	1,127 80	-	-	1	77	108,000 00	-	-	-	2,500 00	150 00
Southbridge,	-	-	-	2	1,017	-	-	-	-	-	-
Spencer,	-	-	-	1	388	-	-	-	-	1,400 00	-
Sterling,	1,277 80	-	-	-	-	-	-	-	-	-	-
Sturbridge,	1,127 80	-	-	-	-	-	-	-	-	-	-
Sutton,	883 35	-	-	1	795	-	-	-	-	7,000 00	-
Templeton,	883 35	-	-	-	-	-	-	-	-	-	-
Upton,	883 35	-	-	-	-	-	-	-	-	-	-
Uxbridge,	-	-	-	-	-	-	-	-	-	-	-
Warren,	1,127 80	-	-	-	-	-	-	-	-	-	-
Webster,	-	-	-	3	1,259	-	-	-	-	-	-
Westborough,	-	-	-	-	-	-	-	-	-	-	-
West Boylston,	1,277 80	-	-	-	-	-	-	-	-	-	-
West Brookfield,	886 68	-	-	-	-	-	-	-	-	-	-
Westminster,	1,033 35	-	-	-	-	-	-	-	-	-	-
Winchendon,	-	-	-	-	-	-	-	-	-	-	-
Worcester,	-	-	-	12	4,476	-	-	-	-	8,750 00	-
Totals,	\$45,161 91	5	871	29	10,547	\$125,912 80	\$12,000 00	\$85,700 00	\$682,200 00	\$31,209 20	

## RECAPITULATION.

COUNTIES.	SCHOOL CENSUS DATA SEPT. 1, 1909.			SCHOOL MEMBERSHIP, ATTENDANCE AND GRADUATION DATA FOR THE SCHOOL YEAR.											
	Population — State Census of 1905.	Valuation — May 1, 1909.	No. of public schools.	No. of persons in towns be- tween 5 and 15 years of age.		No. of persons in towns be- tween 7 and 14 years of age.		No. of different pupils of all ages in the public schools during the school year.	No. of different pupils with- in the year under 5 years of age.	No. of different pupils with- in the year over 15 years of age.	No. of different pupils with- in the year between 7 and 14 years of age.	Average membership of all the schools.	Average attendance of all the schools.	Percentage of attendance based on average mem- bership.	No. graduated from gram- mar schools.
Barnstable, . . . . .	26,831	\$30,457,740	149	4,184	3,153	4,983	20	690	3,466	4,578	4,243	.93	273		
Berkshire, . . . . .	98,330	79,888,118	506	18,937	13,508	17,830	461	1,639	11,705	15,776	14,610	.93	663		
Bristol, . . . . .	269,257	238,343,012	996	54,990	40,485	44,419	472	2,954	31,478	38,955	36,287	.93	1,348		
Dukes, . . . . .	4,551	5,808,859	25	689	519	784	—	90	519	693	630	.90	40		
Essex, . . . . .	381,181	370,431,845	1,402	68,953	49,953	61,391	695	6,380	40,010	55,645	52,118	.94	2,997		
Franklin, . . . . .	43,362	30,461,052	264	7,281	5,345	7,916	63	807	5,172	7,052	6,650	.94	435		
Hampden, . . . . .	196,013	203,774,874	834	38,297	28,208	35,161	1,599	3,434	22,283	30,697	28,393	.92	1,405		
Hampshire, . . . . .	62,227	40,546,131	310	10,889	8,117	10,553	155	943	7,205	9,401	8,675	.92	426		
Middlesex, . . . . .	608,499	630,915,750	2,347	107,801	77,786	111,407	2,550	13,091	68,465	101,513	94,562	.93	5,736		
Nantucket, . . . . .	2,930	3,367,950	11	445	326	476	5	58	313	440	407	.92	25		
Norfolk, . . . . .	167,537	282,706,037	755	32,326	24,246	33,079	894	3,397	20,939	30,118	28,018	.93	1,877		
Plymouth, . . . . .	127,932	115,325,701	583	21,898	15,530	23,963	105	2,617	15,872	22,233	20,851	.94	1,238		
Suffolk, . . . . .	652,362	1,399,666,727	2,194	126,001	85,356	122,729	3,215	11,765	69,442	107,793	98,478	.91	6,679		
Worcester, . . . . .	362,668	295,779,839	1,472	65,818	48,644	61,178	298	6,240	40,730	54,175	50,168	.92	2,439		
State, . . . . .	3,003,680	\$3,727,473,635	11,848	558,509	401,176	535,869	10,532	54,105	337,599	479,069	444,090	.93	25,581		

## RECAPITULATION — CONTINUED.

COUNTIES.	TEACHERS AND TEACHERS' WAGES.						LENGTH OF SCHOOLING.		HIGH SCHOOLS.							
	NUMBER OF TEACHERS REQUIRED BY THE PUBLIC SCHOOLS.		NUMBER OF TEACHERS WHO HAVE GRADUATED FROM COLLEGE.		No. of teachers who have graduated from normal schools.	Average wages per month of male teachers.	Average wages per month of female teachers.	Aggregate of months all the public schools have been kept during the school year.	Average number of months public schools have been kept during the year.	No. of high schools.	No. of teachers.	No. of pupils.	No. of pupils admitted to the freshman class.	No. of graduates.	Length of schooling.	Expenditures for high school support.
	Men.	Women.	In high schools.	In elementary schools.												
Barnstable, . . . . .	27	146	25	7	83	\$84 37	\$46 59	1,314-15	8-16	14	33	756	251	114	9-9	\$34,422 51
Berkshire, . . . . .	40	578	58	6	270	111 97	50 19	4,714-8	9-6	11	65	1,652	612	229	9-11	75,305 88
Bristol, . . . . .	91	1,183	90	34	413	136 80	58 35	9,365-11	9-6	14	108	2,684	979	377	9-13	142,797 82
Dukes, . . . . .	5	25	6	—	14	75 68	43 99	220-15	8-16	4	7	89	46	17	9-6	4,989 33
Essex, . . . . .	127	1,705	219	41	759	146 34	60 07	13,142-5	9-7	29	286	7,169	2,491	967	9-11	375,684 86
Franklin, . . . . .	12	295	39	6	106	116 91	42 82	2,336-11	8-17	12	47	1,080	326	148	9-15	45,470 70
Hampden, . . . . .	80	1,010	118	47	644	148 09	60 18	7,988-17	9-11	11	164	3,573	1,280	516	9-13	213,373 93
Hampshire, . . . . .	24	332	46	18	147	98 54	45 90	2,790-3	9	11	49	1,027	338	170	9-14	50,211 18
Middlesex, . . . . .	287	2,866	376	125	1,503	154 78	66 70	21,538-4	9-3	48	526	14,266	4,932	1,916	9-10	716,034 33
Nantucket, . . . . .	1	13	1	—	5	110 00	44 42	98-4	8-19	1	4	90	24	—	8-16	3,507 95
Norfolk, . . . . .	99	921	151	41	457	138 06	62 94	6,981	9-4	27	179	4,307	1,588	557	9-11	233,066 30
Plymouth, . . . . .	67	644	101	12	371	130 73	55 95	5,339-17	9-3	20	136	3,121	1,103	456	9-12	154,812 10
Suffolk, . . . . .	354	2,522	250	123	2,091	191 49	72 98	20,895-12	9-10	18	407	12,189	5,596	1,097	9-9	918,901 05
Worcester, . . . . .	161	1,706	245	44	1,180	135 39	55 96	13,800-11	9-8	50	294	7,065	2,209	931	9-13	355,825 51
State, . . . . .	1,375	13,946	1,725	504	8,043	\$152 96	\$61 82	110,526-13	9-6	270	2,305	59,068	21,775	7,495	9-6	\$3,224,403 45

## RECAPITULATION — CONTINUED.

COUNTIES.	EXPENDITURES FOR THE SUPPORT OF PUBLIC SCHOOLS.							Total expenditure for the support of the seven preceding columns.	Amount included in the total expenditure as given in the preceding column, but derived from other sources than local taxation, such as aid from the State, voluntary contributions, income from local funds, etc.	Amount raised by local taxation and expended for the support of public schools, being the total expenditure for such support diminished by contributions from other sources than local taxation.
	Teachers' wages.	Conveyance of pupils.	Fuel and care of school premises.	School committee, including clerical aid and truant service.	Superintendent and assistants.	Text-books and school supplies.	School sundries.			
Barnstable, . . . . .	\$91,556 07	\$16,599 04	\$18,275 87	\$1,350 55	\$9,293 75	\$10,981 31	\$5,321 97	\$153,378 56	\$25,080 03	\$128,298 53
Berkshire, . . . . .	328,031 57	12,483 04	62,182 11	5,479 50	22,755 21	28,028 54	13,496 40	472,456 37	45,752 55	426,703 82
Bristol, . . . . .	826,160 58	18,121 84	166,598 33	17,917 24	25,035 71	57,568 31	37,417 26	1,148,819 27	66,381 26	1,082,438 01
Dukes, . . . . .	14,329 67	1,055 50	2,178 53	396 25	1,565 95	1,557 09	921 42	22,004 41	7,183 27	14,821 14
Essex, . . . . .	1,212,757 78	22,948 95	222,835 40	21,573 22	41,230 09	104,777 76	55,846 07	1,681,969 27	37,273 78	1,644,695 49
Franklin, . . . . .	142,835 39	21,552 94	24,567 17	1,373 01	14,372 02	13,284 17	7,122 61	225,307 31	52,239 89	173,067 42
Hampden, . . . . .	772,109 16	15,691 47	149,883 43	15,628 57	25,894 34	75,336 13	33,568 02	1,088,111 12	56,496 35	1,031,614 77
Hampshire, . . . . .	181,048 96	11,553 16	37,447 41	2,193 84	16,127 04	15,198 80	8,318 61	271,887 82	49,154 48	222,733 34
Middlesex, . . . . .	2,395,213 88	61,064 03	464,761 89	34,856 01	70,333 76	199,281 25	77,095 34	3,302,606 16	85,104 10	3,217,502 06
Nantucket, . . . . .	6,972 00	150 00	1,446 69	155 50	1,100 00	757 04	679 85	11,261 08	—	11,261 08
Norfolk, . . . . .	696,687 81	34,401 47	135,585 21	7,783 10	35,097 25	68,807 01	34,962 09	1,013,323 94	31,005 52	982,318 42
Plymouth, . . . . .	457,874 31	29,772 51	82,199 79	5,945 33	24,361 15	34,266 79	20,957 79	655,377 67	42,329 13	613,048 54
Suffolk, . . . . .	3,302,431 52	1,118 02	457,790 14	74,665 39	40,461 65	184,566 36	210,445 91	4,271,478 99	46,362 57	4,225,116 42
Worcester, . . . . .	1,172,622 11	63,910 18	238,640 19	18,972 87	52,509 65	98,465 37	49,620 13	1,694,740 50	106,201 45	1,588,539 05
State, . . . . .	\$11,600,630 81	\$310,422 15	\$2,064,392 16	\$208,290 38	\$380,337 57	\$892,875 93	\$555,773 47	\$16,012,722 47	\$650,564 38	\$15,362,158 09



# SCHOOL RETURNS.

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## RECAPITULATION — CONTINUED.

COUNTIES.	EXPENDITURES FOR SCHOOL BUILDINGS.			Total expenditure for school buildings being the total of the three preceding columns.	Amount included in the total expenditure for school buildings as given in the preceding column, but derived from other sources than local taxation.	Amount raised by local taxation and expended for school buildings.	Amount raised by local taxation and expended for support of the public schools, that is, for all school purposes.	LOCAL FUNDS WHOSE INCOME MUST BE APPROPRIATED TO THE PUBLIC SCHOOLS.		Dog tax and other income voluntarily appropriated to the public schools.
	New schoolhouses.	Alterations and permanent repairs.	Ordinary repairs.					Principal.	Income.	
Barnstable, . . . . .	—	\$2,886 28	\$7,670 63	\$10,556 91	—	\$10,556 91	\$138,855 44	\$23,739 00	\$1,655 04	\$2,012 92
Berkshire, . . . . .	\$222,305 42	13,486 69	15,493 77	251,285 88	\$4,673 83	246,612 05	673,315 87	4,265 50	254 70	2,411 35
Bristol, . . . . .	115,283 13	29,739 03	45,250 61	190,272 77	392 60	189,880 17	1,272,318 18	213,500 00	13,885 50	11,049 44
Dukes, . . . . .	—	786 92	509 97	1,296 89	—	1,296 89	16,118 03	—	—	247 42
Essex, . . . . .	626,550 57	47,369 65	74,225 80	748,146 02	120 41	748,025 61	2,392,721 10	121,549 28	5,485 58	7,977 51
Franklin, . . . . .	11,145 21	1,565 93	6,615 86	19,327 00	1,932 04	17,394 96	190,462 38	36,590 00	1,674 63	1,247 74
Hampden, . . . . .	108,270 00	60,417 65	43,065 55	211,753 20	—	211,753 20	1,243,367 97	37,374 85	1,880 16	4,914 55
Hampshire, . . . . .	—	3,399 70	6,641 35	10,041 05	—	10,041 05	232,774 39	24,104 00	1,141 74	3,067 13
Middlesex, . . . . .	416,302 89	62,741 29	137,591 06	616,635 24	3,495 49	613,139 75	3,830,641 81	113,843 97	5,409 79	12,089 79
Nantucket, . . . . .	—	800 00	203 26	1,003 26	—	1,003 26	12,264 34	—	—	267 60
Norfolk, . . . . .	81,523 92	19,504 08	37,555 06	138,583 06	—	138,583 06	1,120,901 48	55,513 70	2,885 30	6,143 56
Plymouth, . . . . .	103,160 52	14,595 76	28,382 13	146,138 41	175 87	145,962 54	759,011 08	33,943 69	1,434 64	7,829 37
Suffolk, . . . . .	1,131,939 96	351,125 68	11,156 76	1,494,222 40	—	1,494,222 40	5,719,338 82	133,195 50	8,770 65	30,352 61
Worcester, . . . . .	185,708 51	34,979 09	63,073 27	283,760 87	7,282 15	276,478 72	1,865,017 77	406,217 01	13,664 09	14,585 39
State, . . . . .	\$3,002,190 13	\$643,397 75	\$477,435 08	\$4,123,022 96	\$18,072 39	\$4,104,950 57	\$19,467,108 66	\$1,203,836 50	\$58,141 82	\$104,196 38

## BOARD OF EDUCATION.

## RECAPITULATION — CONCLUDED.

COUNTIES.	Town's share of school fund income paid Jan. 25, 1910.	Amount of voluntary contributions expended on the public schools but not included in expenditures by the town or city.	ACADEMIES AND PRIVATE SCHOOLS.				ESTIMATED AMOUNT OF TUL- TION PAID IN —		FUNDS WHOSE INCOME MUST BE APPROPRIATED TO ACADE- MIES OR PRIVATE SCHOOLS.	
			No. of academies.	No. of different academy pupils attending during the year.	No. of private schools.	No. of different private school pupils during the year.	Academies.	Private schools.	Principal.	Income.
Barnstable,	\$11,171 31	\$1,100 00	—	—	—	—	—	—	—	—
Berkshire, .	28,117 08	1,558 00	—	—	10	2,717	—	\$57,500 00	\$35,000 00	—
Bristol, .	11,889 11	1,250 00	6	914	31	12,245	\$24,500 00	11,541 00	848,650 93	\$30,631 42
Dukes, .	4,694 51	20 00	—	—	—	—	—	—	—	—
Essex, .	12,350 78	980 75	4	729	43	14,793	114,531 57	11,325 00	1,260,973 00	37,375 80
Franklin, .	27,233 20	90 00	3	1,379	2	232	100,054 83	—	1,994,770 16	31,168 95
Hampden, .	17,201 95	4,306 14	4	430	29	9,212	41,917 00	4,850 00	255,836 93	10,689 49
Hampshire, .	20,817 55	18 00	2	185	7	1,431	524 00	—	549,759 26	21,909 01
Middlesex, .	27,209 38	3,528 31	12	968	58	18,189	178,845 00	270,097 09	438,938 04	9,784 87
Nantucket, .	—	—	—	—	—	—	—	—	—	—
Norfolk, .	12,497 45	685 75	3	546	12	1,726	39,500 00	22,500 00	938,946 00	48,240 00
Plymouth, .	13,346 34	345 00	1	28	6	1,113	—	15,580 00	421,316 35	16,746 43
Suffolk, .	—	567 51	4	554	81	24,259	30,051 38	434,667 91	4,560,500 26	158,838 28
Worcester, .	45,161 91	2,013 42	5	871	29	10,547	125,912 80	85,700 00	682,200 00	31,209 20
State,	\$231,690 57	\$16,462 88	44	6,604	308	96,464	\$655,836 58	\$913,761 00	\$11,986,890 93	\$396,593 45

## EVENING SCHOOLS.

CITIES AND TOWNS.	No. of schools.	ATTENDANCE.			Time. Average No. of evenings.	No. of teachers.	Expense.
		Males.	Females.	Average.			
Adams, . . . . .	2	115	105	141	42	11	\$782 52
Andover, . . . . .	1	68	27	51	34	4	181 75
Ashburnham, . . . . .	1	34	-	21	42	2	99 91
Athol, . . . . .	1	71	36	43	48	6	390 00
Attleborough, . . . . .	3	208	73	130	35	13	995 50
Beverly, . . . . .	18	653	208	340	40	22	1,820 29
Boston, . . . . .	24	13,001	8,408	8,309	86	329	146,531 99
Bridgewater, . . . . .	1	51	1	49	45	3	117 50
Brockton, . . . . .	35	772	642	765	60	50	6,542 67
Brookline, . . . . .	3	109	92	85	54	11	1,396 13
Cambridge, . . . . .	8	1,562	1,154	1,090	65	87	14,929 85
Chelsea, . . . . .	1	512	312	354	75	21	3,256 73
Chicopee, . . . . .	3	417	267	479	80	39	3,609 67
Clinton, . . . . .	2	143	72	117	61	11	917 50
Deerfield, . . . . .	1	15	-	8	20	2	39 20
Dudley, . . . . .	1	34	15	18	50	3	250 42
Easthampton, . . . . .	12	74	103	149	30	12	359 50
Everett, . . . . .	5	280	136	219	64	14	2,548 24
Fall River, . . . . .	20	2,082	823	1,596	43	145	11,120 05
Fitchburg, . . . . .	3	266	106	178	64	26	3,300 00
Framingham, . . . . .	2	184	100	99	50	12	1,042 78
Gardner, . . . . .	1	207	11	161	41	20	881 00
Gloucester, . . . . .	1	27	14	10	35	1	70 00
Granby, . . . . .	1	7	-	3	18	1	27 00
Greenfield, . . . . .	1	73	17	42	48	4	301 00
Haverhill, . . . . .	5	548	191	407	40	42	3,069 00
Holyoke, . . . . .	6	1,134	662	752	60	74	9,831 83
Hudson, . . . . .	2	19	5	15	20	2	85 25
Hyde Park, . . . . .	3	219	152	129	60	8	1,261 19
Lawrence, . . . . .	5	1,969	983	1,585	75	85	13,470 13
Leominster, . . . . .	1	246	78	122	35	20	1,243 00
Lowell, . . . . .	17	2,614	1,289	2,169	71	169	24,058 75
Lynn, . . . . .	4	1,643	269	781	71	51	7,607 96
Malden, . . . . .	3	652	413	513	58	35	6,046 08
Marlborough, . . . . .	1	247	32	227	50	8	579 95
Medford, . . . . .	1	173	65	56	43	9	961 48
Milford, . . . . .	1	247	40	151	36	13	961 50
Millbury, . . . . .	1	27	1	20	80	2	276 18
Montague, . . . . .	2	156	19	79	34	7	384 00
Natick, . . . . .	2	110	118	146	61	6	800 00
New Bedford, . . . . .	7	1,632	721	896	48	80	7,176 88
Newburyport, . . . . .	1	199	25	83	66	16	753 00
Newton, . . . . .	3	311	134	223	43	19	2,388 40
North Adams, . . . . .	2	177	63	77	40	8	952 91
Northampton, . . . . .	2	64	25	61	60	6	573 00
North Attleborough, . . . . .	2	100	90	65	36	7	560 50
Northbridge, . . . . .	5	121	52	116	42	9	751 13
Peabody, . . . . .	1	226	-	119	34	12	439 25
Pittsfield, . . . . .	13	440	108	149	55	15	1,332 00
Plymouth, . . . . .	2	98	52	97	60	8	528 50
Quincy, . . . . .	4	234	122	183	35	12	1,500 00
Revere, . . . . .	1	238	90	117	43	7	707 99
Rockland, . . . . .	1	38	20	21	35	2	184 50
Salem, . . . . .	3	417	110	132	60	22	2,524 00
Somerville, . . . . .	4	1,041	432	604	73	46	8,842 00
Southbridge, . . . . .	4	115	87	155	39	9	663 90
South Hadley, . . . . .	1	35	18	15	41	3	199 44
Springfield, . . . . .	8	1,936	871	1,197	80	96	17,327 13
Stoughton, . . . . .	1	40	11	28	40	3	250 00
Taunton, . . . . .	11	426	224	395	42	36	3,667 51
Uxbridge, . . . . .	1	61	9	56	30	2	90 00
Wakefield, . . . . .	2	42	25	38	60	8	702 70
Waltham, . . . . .	3	199	90	150	53	14	2,285 50
Warren, . . . . .	2	63	51	66	30	5	193 60
Watertown, . . . . .	1	33	-	26	36	2	160 00
Webster, . . . . .	1	81	60	73	50	8	691 75
Westfield, . . . . .	1	163	67	116	39	10	599 63
Woburn, . . . . .	5	185	41	5,795	38	9	584 72
Worcester, . . . . .	20	1,873	931	1,508	110	122	30,708 73
Totals (69 towns), . . . . .	317	41,557	21,568	34,170	3,442	1,976	\$359,486 17

## RETURNS OF SCHOOLS IN STATE INSTITUTIONS FOR THE SCHOOL YEAR 1909-1910.

STATE INSTITUTIONS.	No. of schools in the institution.	No. of different pupils of all ages during the year.	Average attendance during the year.	No. under 5 years of age attending school.	No. over 15 years of age attending school.	No. between 5 and 15 years in the institution at the end of the school year.	No. of Teachers during the Year.		WAGES OF TEACHERS PER MONTH.		Length of schooling.
							Males.	Females.	Males.	Females.	
State Industrial School for Girls, Lancaster, <sup>1</sup>	11	466	260	-	426	40	-	12	\$25.00 <sup>2</sup> to \$41.07 <sup>2</sup>	\$25.00 <sup>2</sup> to \$66.66 <sup>2</sup>	10 mos.
Lyman School for Boys, Westborough,	8	723	358	-	122	208	\$66.66 <sup>2</sup> to \$91.06 <sup>2</sup>	13	\$25.00 <sup>2</sup> to \$66.66 <sup>2</sup>	\$25.00 <sup>2</sup> to \$66.66 <sup>2</sup>	44 wks.

<sup>1</sup> Statistics for 1908-1909.<sup>2</sup> And home.

GRADUATED TABLES.

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In order to show the comparative standing of the towns and cities (1) in the taxes which they impose upon themselves for the support of their public schools, (2) in the ratio which these taxes bear to their respective valuations, and (3) in the ratio of the attendance upon the public schools to the whole number of children between five and fifteen, three graduated tables have been prepared.

For the sake of brevity as well as convenience of reference these tables may be named as follows:—

- I. Graduated taxation table.
- II. Graduated valuation table.
- III. Graduated attendance table.

*I. Graduated Taxation Table.*

In this table the towns and cities are classified or ranked according to the amounts which they severally raise by local taxation for the school support of each child in the average membership of the public schools. It is the average membership that more than any other factor determines the expense of the schools, and it is the expenditure for each child in the average membership that more than any other factor determines a town's liberality in matters of school support. In some places large numbers of children between five and fifteen are in private schools; the amount raised for the public schools is correspondingly reduced. Consequently the amounts of the local tax for each child between five and fifteen in such places are relatively small. To use such amounts, however, as evidence of the economy or the parsimony of towns would be illogical and unjust.

Advantage is taken of this table to present important data not given in reports previous to the sixty-sixth. They are the amounts yielded for each child in the average membership by the local tax *plus* the State and other contributions. In the column next to the last, the amounts measure the local taxation burden for each child in the average membership. That is to say, the former column shows what the town unaided is doing for the child, the latter column what the child gets from all sources.

II. *Graduated Valuation Table.*

This table exhibits for the several towns and cities the ratios which the sums raised by taxation and expended for the support of the public schools bear to their respective assessed valuations. For convenience of apprehension the ratio in each case is expressed as so many dollars of tax on a thousand dollars of valuation.

III. *Graduated Attendance Table.*

This table exhibits for the several towns and cities the ratio in each case of the average attendance upon the public schools to the whole number of children between five and fifteen reported in the school census. If there are no private schools, the ratio is likely to be high. If there are no private schools and at the same time an unusually large proportion of the children under five and over fifteen are attending school, the ratio may exceed even a hundred per cent. On the other hand, if children attend private schools in any considerable number, the fact is reflected in a lower ratio.

## I. GRADUATED TAXATION TABLE.

Table showing for the several towns and cities of the State the comparative amounts of money expended for the support of public schools per child, as determined (1) by the number of children between five and fifteen years of age in the town or city and (2) by the number of children in the average membership of the public schools.

Rank according to the amount yielded for each child in the average membership of the public schools by the local tax for school support.	TOWNS AND CITIES.	AMOUNT EXPENDED FOR THE SUPPORT OF THE PUBLIC SCHOOLS FROM THE —		NUMBER OF CHILDREN —		Amount of local tax for school support for each child between five and fifteen years of age.	AMOUNT YIELDED FOR EACH CHILD IN THE AVERAGE MEMBERSHIP OF THE PUBLIC SCHOOLS BY THE —	
		Local tax only.	Local tax plus the State and other contributions.	In town between five and fifteen years of age.	In the average membership of the public schools.		Local tax for support.	Local tax plus the State and other contributions.
<b>1908-9.</b>								
2	Weston,	\$20,192 29	\$20,192 29	301	302	\$67 08	\$66 86	\$66 86
1	Lincoln,	8,694 70	8,857 23	158	138	55 03	64 18	64 18
3	Hull,	11,621 29	11,621 29	198	211	58 69	55 08	55 08
4	Dover,	5,612 53	6,954 94	127	103	44 19	54 49	67 52
25	Milton,	74,264 57	74,264 57	1,355	1,428	55 63	52 01	52 01
5	Brookline,	192,539 27	192,539 27	3,656	3,770	52 66	51 07	51 07
3	Nahant,	8,715 12	8,715 12	164	178	53 14	48 96	48 96
6	Newton,	308,588 93	308,588 93	6,615	6,425	46 65	48 03	48 03
9	Manchester,	22,667 25	22,667 25	418	484	54 23	46 83	46 83
8	Stockbridge,	15,497 61	15,811 95	400	331	38 74	46 82	47 77
13	Lancaster,	13,847 06	14,263 56	375	297	36 93	46 62	48 03
7	Westwood,	8,854 39	10,167 74	242	190	36 59	46 60	53 51
6	Wellesley,	42,448 01	42,448 01	726	915	58 47	46 39	46 39
13	Cohasset,	19,581 73	19,622 13	445	433	44 00	45 22	45 22
11	Harvard,	5,504 56	7,139 84	182	126	30 24	43 69	56 67
20	Swampscott,	33,159 49	33,159 49	819	763	40 49	43 46	43 46
43	Bourne,	14,023 93	14,586 43	261	327	53 73	42 89	44 61
12	Chilmark,	1,114 18	1,817 38	32	26	34 82	42 85	69 90
55	Acton,	13,029 72	14,617 61	320	309	40 72	42 17	47 31
45	Lexington,	34,714 58	35,006 18	756	825	45 92	41 96	42 31
18								

Table showing the comparative amounts of money expended for the support, etc. — Continued.

Rank according to the amount yielded for each child in the average membership of the public schools by the local tax for school support.	TOWNS AND CITIES.		AMOUNT EXPENDED FOR THE SUPPORT OF THE PUBLIC SCHOOLS FROM THE —		NUMBER OF CHILDREN —		Amount of local tax for school support for each child between five and fifteen years of age.	AMOUNT YIELDED FOR EACH CHILD IN THE AVERAGE MEMBERSHIP OF THE PUBLIC SCHOOLS BY THE —	
			Local tax only.	Local tax plus the State and other contributions.	In town between five and fifteen years of age.	In the average membership of the public schools.		Local tax for support.	Local tax plus the State and other contributions.
<b>1908-9.</b>	<b>1909-10.</b>								
22	21	Falmouth,	\$23,154 35	\$23,670 07	546	569	\$42 41	\$40 69	\$41 60
56	22	Hyde Park,	71,960 97	72,001 97	2,859	1,795	25 17	40 09	40 11
24	23	Boston,	3,927,295 50	3,973,525 43	115,527	98,067	33 99	40 05	40 52
21	24	Springfield,	498,711 19	509,693 30	13,209	12,808	37 76	38 94	39 79
28	25	Holyoke,	240,978 82	240,978 82	11,209	6,199	21 52	38 87	38 87
16	26	Petersham,	5,777 09	8,231 00	146	149	39 57	38 77	55 24
31	27	West Boylston,	8,232 77	10,293 87	190	215	43 33	38 29	47 88
15	28	Scituate,	17,690 17	17,791 17	434	468	40 76	37 80	38 02
17	29	Barnstable,	28,245 53	31,360 83	657	752	42 99	37 56	41 70
58	30	Marion,	5,900 67	6,879 37	185	158	31 90	37 35	43 54
19	31	Wenham,	5,430 31	6,512 11	189	146	28 73	37 19	44 60
34	32	Longmeadow,	4,798 11	7,318 42	193	131	24 86	36 63	55 87
27	33	Beverly,	116,695 48	116,695 48	3,121	3,211	37 39	36 34	36 34
49	34	Watertown,	58,543 84	58,543 84	1,971	1,647	29 70	35 55	35 55
23	35	Sudbury,	6,824 77	8,963 61	176	192	38 78	35 55	46 69
32	36	Belmont,	30,125 12	30,421 36	879	848	34 27	35 52	35 87
87	37	Weymouth,	9,625 62	10,145 09	271	272	35 52	35 39	37 30
33	38	Wayland,	12,103 40	14,522 94	349	345	35 68	35 08	42 10
30	39	Groton,	11,849 47	12,070 47	313	338	37 86	35 06	35 71
35	40	Hopedale,	14,360 95	14,412 50	354	410	40 57	35 03	35 15
57	41	Brewster,	2,753 68	3,981 33	127	79	21 68	34 86	50 40
48	42	Plainville,	7,060 06	9,354 27	232	203	30 43	34 78	46 08
40	43	Worcester,	689,026 01	693,160 46	21,349	19,957	32 27	34 53	34 73
331	44	Tolland,	1,390 33	1,390 33	30	20	23 01	34 52	69 52
47	45	Canton,	20,377 18	20,586 68	850	591	23 97	34 48	34 83
38	46	Waltham,	107,449 24	107,606 24	3,923	3,124	27 39	34 39	34 45
71	47	Leominster,	72,883 66	74,142 60	2,919	2,124	24 97	34 31	34 91
46	48	Fitchburg,	137,757 66	138,449 66	6,929	4,029	19 88	34 19	34 63



## SCHOOL RETURNS.

ciii

69	Winthrop,	56,024	83	56,024	83	1,647	1,641	34	06	34	14	34	14
81	Concord,	34,221	85	41,632	79	921	1,009	33	92	33	92	41	26
51	Webster,	28,505	06	29,402	46	2,140	842	33	85	33	85	34	92
42	Dedham,	55,979	04	58,184	15	1,525	1,669	33	54	34	86	34	86
37	Lawrence,	275,504	06	275,504	06	13,084	8,232	33	47	33	47	33	47
203	Yarmouth,	6,851	07	9,880	10	128	205	33	42	33	42	48	20
39	Princeton,	4,693	98	5,907	83	147	141	33	29	33	29	41	90
52	Marshfield,	7,675	94	9,067	66	239	231	33	23	33	23	39	25
29	Hardwick,	12,360	36	14,158	74	578	372	33	23	33	23	38	06
58	Burlington,	2,420	25	3,886	16	89	73	33	15	33	15	53	24
53	Arlington,	64,106	11	65,118	42	2,066	1,942	33	03	33	03	33	53
36	Needham,	30,699	90	31,483	65	862	937	32	76	32	76	33	60
65	Winchester,	53,984	19	54,730	64	1,785	1,648	33	21	33	21	33	21
62	Salem,	151,128	72	151,128	72	7,204	4,627	32	66	32	66	32	66
50	Lowell,	370,433	38	376,815	38	14,700	11,476	32	84	32	84	32	84
59	Cambridge,	498,810	74	506,441	88	15,827	15,465	32	25	32	25	32	75
41	Walpole,	27,792	52	28,012	77	871	866	31	91	32	09	32	35
83	Southborough,	10,071	15	12,402	16	309	314	32	59	39	50	39	50
72	Medford,	131,848	62	132,300	19	4,047	4,132	31	91	32	02	32	02
90	Haverhill,	174,401	55	175,840	85	6,904	5,502	31	70	31	70	31	70
44	Wilbraham,	7,027	57	9,255	41	243	222	31	66	31	66	41	69
95	Amesbury,	27,528	95	27,528	95	1,533	872	31	57	31	57	31	57
75	Melrose,	96,284	62	96,284	62	2,869	3,050	33	56	33	56	31	57
124	Natick,	54,477	38	54,477	38	1,625	1,735	31	40	31	40	31	40
63	Attleborough,	73,115	70	73,725	71	2,581	2,351	28	33	31	10	31	36
26	Bedford,	4,502	08	6,515	22	165	145	27	29	31	05	44	93
77	Ludlow,	23,062	78	24,658	86	822	746	28	01	30	87	33	05
75	Malden,	217,852	49	219,290	69	7,893	7,071	27	60	30	81	31	01
66	New Bedford,	308,432	22	310,943	67	15,568	10,014	19	81	30	80	31	05
61	North Andover,	26,400	21	26,460	01	900	858	29	33	30	77	30	84
74	Lenox,	19,414	87	19,914	87	557	631	34	86	30	77	31	56
80	Norwell,	7,054	61	9,445	18	230	230	30	67	30	67	41	07
64	Tewksbury,	6,101	71	8,447	54	271	198	22	52	30	67	42	66
139	Ashby,	3,907	92	5,955	29	134	128	29	16	30	53	46	53
76	Dartmouth,	20,853	52	21,595	32	832	684	25	06	30	49	31	57
62	Wrentham,	7,185	94	9,563	56	231	236	31	11	30	45	40	52
136	Mattapoisett,	5,716	71	6,793	85	218	188	26	22	30	41	36	14
67	Hingham,	26,576	62	28,128	32	787	880	33	77	30	20	31	96
84	Lynn,	312,347	07	313,248	41	12,784	10,387	30	07	30	07	30	16

Table showing the comparative amounts of money expended for the support, etc. — Continued.

Rank according to the amount yielded for each child in the average membership of the public schools by the local tax for school support.	TOWNS AND CITIES.	AMOUNT EXPENDED FOR THE SUPPORT OF THE PUBLIC SCHOOLS FROM THE —		NUMBER OF CHILDREN —		Amount of local tax for school support for each child between five and fifteen years of age.	AMOUNT YIELDED FOR EACH CHILD IN THE AVERAGE MEMBERSHIP OF THE PUBLIC SCHOOLS BY THE —	
		Local tax only.	Local tax plus the State and other contributions.	In town between five and fifteen years of age.	In the average membership of the public schools.		Local tax for support.	Local tax plus the State and other contributions.
<b>1908-9.</b>								
78	Draught, .	\$16,174 75	\$17,857 69	619	538	\$26 13	\$30 06	\$33 19
113	Revere, .	104,766 83	104,852 83	3,273	3,490	32 01	30 02	30 04
86	North Adams,	90,307 04	91,242 04	4,757	3,015	18 98	29 95	30 26
166	Chelsea, .	137,029 26	137,075 90	5,554	4,595	24 67	29 82	29 83
231	Shelburne, .	5,865 16	8,191 86	211	197	27 80	29 77	41 58
79	Somerville, .	366,149 21	366,149 21	12,419	12,325	29 48	29 71	29 71
116	Taunton, .	129,808 22	134,164 17	5,632	4,370	23 05	29 70	30 70
111	Spencer, .	23,751 50	24,192 51	1,151	801	20 64	29 65	30 20
126	Tyngsborough, .	3,435 51	5,574 88	140	116	24 54	29 62	48 06
100	Andover, .	34,464 66	38,112 08	1,197	1,166	28 79	29 56	32 69
73	Ware, .	32,805 93	33,045 57	1,617	1,110	20 29	29 55	29 77
93	Reading, .	34,507 58	36,543 90	1,029	1,168	33 54	29 54	31 29
157	Maynard, .	24,003 94	754	754	815	31 84	29 45	29 45
85	Wareham, .	18,995 15	20,162 76	661	648	28 74	29 31	31 12
137	Framingham, .	62,296 87	63,182 80	1,815	2,126	34 32	29 30	29 72
128	Granby, .	3,486 53	5,949 36	129	119	27 03	29 30	49 99
96	Northampton, .	79,073 50	81,065 89	3,344	2,697	23 65	29 28	30 06
89	Barre, .	11,710 86	13,700 77	462	401	25 35	29 20	34 17
105	North Attleborough, .	38,449 87	38,449 87	1,278	1,319	30 09	29 15	29 15
102	Norton, .	9,385 76	11,122 99	376	322	24 96	29 15	34 54
127	Gardner, .	50,969 85	51,069 85	2,299	1,749	22 17	29 14	29 20
109	Abington, .	26,883 26	28,034 76	748	923	35 94	29 13	30 37
103	Bridgewater, .	23,615 45	31,391 97	751	817	31 45	28 93	38 42
115	Chicopee, .	81,358 68	81,487 18	3,846	2,815	21 15	28 90	28 95
91	Littleton, .	6,573 11	8,814 41	187	228	35 15	28 83	38 66
120	Sharon, .	10,430 14	11,494 58	409	362	25 50	28 81	31 75
211	Deerfield, .	9,073 79	10,586 23	418	315	21 71	28 81	33 61
106	Westford, .	11,809 68	13,590 89	448	411	26 36	28 73	33 07
<b>1909-10.</b>								

## SCHOOL RETURNS.

CV

97	116	Great Barrington,	.	.	28,814 94	30,144 44	953	1,005	30 24	28 67	29 99
82	117	Brockton,	.	.	248,667 79	249,423 94	8,634	8,692	28 80	28 61	28 70
68	118	Montague,	.	.	32,180 29	34,091 79	1,211	1,136	26 57	28 33	30 01
110	119	Pittsfield,	.	.	129,430 24	129,430 24	4,985	4,580	25 96	28 30	28 30
105	120	Chelmsford,	.	.	22,838 58	24,074 47	828	811	27 58	28 16	29 68
259	121	Shirley, .	.	.	5,627 04	7,801 14	337	200	16 70	28 14	39 01
135	122	Danvers,	.	.	41,657 03	42,757 03	1,492	1,485	27 92	28 05	28 79
151	123	Braintree,	.	.	39,856 58	40,495 38	1,450	1,424	27 49	27 90	28 44
114	124	Everett,	.	.	180,039 44	180,318 44	6,181	6,462	29 13	27 86	27 90
224	125	Hopkinton,	.	.	12,199 04	14,458 33	417	439	29 25	27 79	32 93
152	126	Topsfield,	.	.	3,248 52	4,242 32	109	118	29 80	27 53	35 95
160	127	Wellfleet,	.	.	3,819 67	4,697 26	132	139	28 94	27 48	33 79
134	128	Stoneham,	.	.	31,169 66	31,439 22	1,107	1,135	28 16	27 70	27 45
123	129	Clinton,	.	.	52,596 75	52,596 75	2,411	1,916	21 82	27 45	27 45
129	130	Pembroke,	.	.	5,155 60	7,400 12	216	188	28 86	27 42	39 36
190	131	Sunderland,	.	.	3,667 18	6,112 78	156	134	23 51	27 37	45 62
125	132	Marblehead,	.	.	32,375 07	32,375 07	1,122	1,183	28 85	27 37	27 37
121	133	Ashtand,	.	.	7,968 99	9,984 38	277	292	28 77	27 29	34 19
88	134	Norwood,	.	.	44,239 80	44,537 65	1,480	1,625	29 91	27 24	27 41
176	135	Greenfield,	.	.	46,024 39	46,783 16	1,024	1,692	28 34	27 20	27 65
133	136	Shrewsbury,	.	.	7,804 68	7,804 68	277	287	28 18	27 19	27 19
112	137	Dudley,	.	.	10,499 15	11,946 17	842	387	12 47	27 13	30 61
107	138	Westfield,	.	.	61,446 90	69,521 26	2,655	2,270	23 14	27 07	30 63
101	139	Dalton,	.	.	18,811 33	19,887 33	669	697	28 12	26 99	28 53
149	140	Mansfield,	.	.	22,468 15	23,048 65	847	833	26 53	26 97	27 67
245	141	Dunstable,	.	.	1,992 40	3,448 49	79	74	25 22	26 92	46 60
158	142	Orange,	.	.	26,794 26	26,794 26	890	999	30 11	26 82	26 82
70	143	Hamilton,	.	.	8,078 24	8,548 24	350	302	23 08	26 75	28 31
159	144	Grafton,	.	.	22,262 73	23,226 23	926	833	24 04	26 73	27 88
119	145	Fall River,	.	.	382,010 15	391,877 60	22,557	14,297	16 94	26 72	27 41
117	146	Williamstown,	.	.	20,978 01	21,400 31	744	786	28 20	26 70	27 23
150	147	Brookfield,	.	.	9,191 17	11,086 47	377	346	24 38	26 56	32 04
154	148	Weymouth,	.	.	57,227 16	57,227 16	1,970	2,157	29 05	26 53	26 53
201	149	Acushnet,	.	.	4,442 03	7,078 84	250	168	17 77	26 44	42 14
262	150	Lakeville,	.	.	3,773 90	5,998 70	168	143	22 46	26 39	41 95
104	151	Peabody,	.	.	55,422 94	55,575 94	2,461	2,109	22 52	26 28	26 35
161	152	Franklin,	.	.	25,225 31	26,213 13	949	965	26 58	26 14	27 16
131	153	Adams,	.	.	45,039 53	45,039 53	2,389	1,727	18 85	26 08	26 08
168	154	Sherborn,	.	.	4,625 06	5,780 36	203	178	22 78	25 98	32 47

Table showing the comparative amounts of money expended for the support, etc. — Continued.

Rank according to the amount yielded for each child in the average membership of the public schools by the local tax for school support.	TOWNS AND CITIES.	AMOUNT EXPENDED FOR THE SUPPORT OF THE PUBLIC SCHOOLS FROM THE —		NUMBER OF CHILDREN —		Amount of local tax for school support, for each child between five and fifteen years of age.	AMOUNT YIELDED FOR EACH CHILD IN THE AVERAGE MEMBERSHIP OF THE PUBLIC SCHOOLS BY THE —	
		Local tax only.	Local tax plus the State and other contributions.	In town between five and fifteen years of age.	In the average membership of the public schools.		Local tax for support.	Local tax plus the State and other contributions.
<b>1908-9.</b>								
140	Halifax.	\$1,711 09	\$3,015 35	73	66	\$23 44	\$25 93	\$45 69
155	Newbury.	4,974 22	6,917 53	205	192	24 26	25 91	36 03
142	Washington.	1,087 92	2,493 40	62	42	17 55	25 90	59 37
177	Marlborough.	61,413 30	61,445 30	2,919	2,376	21 04	25 85	25 86
184	Billerica.	11,646 34	12,416 23	468	452	24 89	25 77	27 47
216	West Brookfield.	4,225 03	6,289 79	209	164	20 22	25 76	38 35
147	Norfolk.	4,203 93	6,107 78	166	164	25 32	25 63	37 24
122	Oxford.	14,298 71	16,180 53	573	559	24 95	25 58	28 95
141	Nantucket.	11,261 08	11,261 08	445	440	25 30	25 54	25 54
217	Sturbridge.	6,997 86	8,862 62	368	276	19 02	25 35	32 11
202	Mendon.	3,791 63	6,013 72	140	150	27 08	25 28	40 09
179	Mashpee.	1,061 56	1,761 56	49	42	21 66	25 28	41 94
212	Plymouth.	51,065 84	51,084 09	2,089	2,027	27 45	25 19	25 20
162	Westborough.	17,926 43	18,139 52	662	714	27 08	25 11	25 41
145	Carlisle.	1,979 30	3,421 42	101	79	19 60	25 05	43 31
252	Warren.	14,582 35	17,726 46	736	583	19 81	25 01	30 41
153	Edgartown.	4,126 61	5,026 61	160	165	25 79	25 01	30 46
289	Athol.	29,826 60	30,979 50	1,256	1,195	23 75	24 96	25 92
172	Stow.	4,870 75	7,839 02	201	196	24 23	24 85	40 00
173	Rockland.	27,934 68	28,269 87	1,046	1,127	26 75	24 82	25 08
180	Pepperell.	13,508 35	14,837 52	587	545	23 01	24 79	27 22
228	Chatham.	6,133 16	7,680 24	242	248	25 34	24 73	30 97
227	Southwick.	3,541 04	5,725 96	160	144	22 13	24 59	39 76
340	Middleborough.	31,516 22	32,969 86	1,286	1,286	24 51	24 51	25 64
156	Hudson.	26,286 68	26,787 97	1,138	1,082	23 10	24 29	24 76
172	Townsend.	7,288 26	9,360 91	292	300	24 96	24 29	31 20
144	Whitman.	30,445 30	31,500 26	1,144	1,254	26 61	24 28	25 12
191	South Hadley.	21,460 70	22,621 27	862	884	24 90	24 28	25 59
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<b>1909-10.</b>								

## SCHOOL RETURNS.

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205	183	Oak Bluffs,	.	.	4,750 69	5,180 19	190	196	25 00	24 24	26 43
276	184	Fairhaven,	.	.	20,277 64	40,397 05	987	839	20 54	24 17	48 15
188	185	Warwick,	.	.	2,728 41	4,877 16	135	113	20 21	24 15	43 16
225	186	Sandwich,	.	.	6,369 12	8,450 42	251	265	25 37	24 03	31 89
187	187	Quincy,	.	.	143,960 00	144,257 56	7,539 00	5,990	19 10	24 03	24 08
167	188	Dighton,	.	.	7,700 63	9,296 04	333	321	23 13	23 99	28 96
242	189	New Salem,	.	.	2,710 05	5,025 38	88	113	30 80	23 99	49 78
148	190	Kingston,	.	.	10,046 66	12,201 61	417	419	24 09	23 98	29 12
221	191	Northbridge,	.	.	33,357 28	33,494 28	1,637	1,434	23 96	23 96	23 36
183	192	Easton,	.	.	23,894 46	31,334 88	889	1,000	26 88	23 89	31 33
118	193	Boxford,	.	.	2,021 04	3,384 39	112	86	18 94	23 85	39 35
182	194	Foxborough,	.	.	13,706 88	15,404 19	517	575	26 79	23 84	26 79
192	195	New Marlborough,	.	.	4,182 94	6,228 29	181	176	23 11	23 77	35 39
249	196	North Brookfield,	.	.	8,887 65	10,750 00	500	374	17 78	23 76	28 74
54	197	Boylston,	.	.	2,961 37	5,350 42	137	125	21 62	23 69	42 80
146	198	Wakefield,	.	.	52,103 96	54,255 71	1,895	2,201	27 50	23 67	24 65
199	199	Lynnfield,	.	.	2,436 82	4,504 72	129	103	18 89	23 66	43 74
189	200	Stoughton,	.	.	19,962 58	20,659 23	1,044	844	19 12	23 65	24 48
206	201	Saugus,	.	.	35,721 95	36,300 45	1,581	1,514	22 59	23 59	23 98
173	202	Palmer,	.	.	28,119 59	28,800 54	1,526	1,193	18 43	23 57	24 14
203	203	Gloucester,	.	.	110,590 88	110,590 88	4,604	4,698	24 02	23 54	23 54
258	204	Enfield,	.	.	3,591 65	6,074 50	161	153	22 31	23 47	23 70
204	205	Lee,	.	.	14,328 37	16,131 28	740	614	19 36	23 34	26 27
235	206	Lunenburg,	.	.	5,133 47	6,896 28	212	220	24 21	23 33	31 35
229	207	Ayer,	.	.	10,546 58	12,204 68	417	452	25 29	23 33	27 00
223	208	West Newbury,	.	.	5,762 19	7,846 99	259	248	22 25	23 23	31 64
215	209	Sheffield,	.	.	5,619 93	7,873 34	249	243	22 57	23 13	32 40
214	210	Erving,	.	.	4,274 20	6,236 10	187	185	22 86	23 10	33 71
218	211	Wilmington,	.	.	8,816 02	11,049 42	380	382	23 08	23 08	28 93
210	212	Agawan,	.	.	10,239 67	11,661 38	562	414	18 22	23 06	26 26
60	213	Mount Washington,	.	.	368 07	1,165 07	20	16	18 40	23 00	72 82
185	214	Leicester,	.	.	14,775 34	18,631 79	738	644	20 02	22 94	28 93
233	215	Easthampton,	.	.	23,581 09	24,792 40	1,279	1,034	18 44	22 81	23 98
246	216	Hanover,	.	.	8,775 78	10,218 56	369	385	23 78	22 79	26 54
248	217	Methuen,	.	.	38,642 12	40,280 58	2,061	1,697	18 72	22 77	23 74
130	218	Southbridge,	.	.	26,266 26	26,665 26	2,173	1,157	12 09	22 70	23 05
257	219	Holliston,	.	.	10,550 62	12,115 93	484	469	21 80	22 50	25 83
181	220	Newburyport,	.	.	43,088 18	46,449 28	2,392	1,917	18 01	22 48	24 23
208	221	Northborough, <sup>1</sup>	.	.	7,022 54	7,980 29	313	313	22 44	22 44	25 50

<sup>1</sup> Financial returns cover a period of eleven months only.

Table showing the comparative amounts of money expended for the support, etc. — Continued.

Rank according to the amount yielded for each child in the average membership of the public schools by the local tax for school support.		TOWNS AND CITIES.	AMOUNT EXPENDED FOR THE SUPPORT OF THE PUBLIC SCHOOLS FROM THE —		NUMBER OF CHILDREN —		Amount of local tax for school support for each child between five and fifteen years of age.	AMOUNT YIELDED FOR EACH CHILD IN THE AVERAGE MEMBERSHIP OF THE PUBLIC SCHOOLS BY THE —	
			Local tax only.	Local tax plus the State and other contributions.	In town between five and fifteen years of age.	In the average membership of the public schools.		Local tax for support.	Local tax plus the State and other contributions.
<b>1909-9.</b>	<b>1909-10.</b>								
304	222	Heath, . . . . .	\$828 92	\$2,461 19	46	37	\$18 02	\$22 40	\$66 52
197	223	Merrimac, . . . . .	8,002 89	9,475 08	307	358	26 07	22 35	26 47
143	224	Holland, . . . . .	312 67	923 75	17	14	18 39	22 33	65 98
200	225	Bellingham, . . . . .	6,553 85	8,389 90	208	295	21 99	22 22	28 44
238	226	Randolph, . . . . .	15,650 46	17,190 03	747	706	20 95	22 17	24 35
271	227	Cheshire, . . . . .	5,140 11	7,327 97	249	232	20 95	22 16	31 59
240	228	Millbury, . . . . .	16,710 47	18,268 82	920	755	18 16	22 13	24 20
251	229	Harwich, . . . . .	7,184 05	8,780 65	368	325	19 52	22 10	27 02
174	230	Medfield, . . . . .	5,574 95	7,954 01	229	266	25 65	22 09	29 94
236	231	Winchendon, . . . . .	21,868 34	30,231 54	1,161	992	18 84	22 04	30 50
306	232	Egremont, . . . . .	1,761 15	2,742 54	90	80	19 57	22 01	34 28
220	233	Nonson, . . . . .	14,329 06	16,917 86	660	655	21 71	21 88	25 83
222	234	Millford, . . . . .	41,446 44	41,446 44	2,257	1,895	18 36	21 87	21 87
247	235	Essex, . . . . .	6,200 89	8,177 72	266	285	23 31	21 76	28 69
232	236	Woburn, . . . . .	63,087 56	64,428 31	3,663	2,901	17 22	21 75	22 21
264	237	West Springfield, . . . . .	36,132 06	38,596 09	1,753	1,669	20 61	21 65	23 13
239	238	Dennis, . . . . .	6,155 00	7,692 91	248	285	24 82	21 60	26 99
266	239	Conway, . . . . .	4,527 05	6,668 23	212	210	21 35	21 56	31 75
213	240	Ipswich, . . . . .	16,336 58	17,030 48	822	763	19 87	21 41	22 32
253	241	East Bridgewater, . . . . .	11,972 36	14,298 85	549	561	21 80	21 34	25 49
196	242	Westport, . . . . .	9,259 51	10,710 09	533	434	17 37	21 34	24 68
226	243	Rockport, . . . . .	17,023 15	17,023 15	837	802	20 34	21 23	21 23
169	244	Holden, . . . . .	9,335 87	11,270 67	401	431	23 28	21 20	26 15
244	245	Amherst, . . . . .	18,654 00	21,246 41	864	882	21 59	21 15	24 09
171	246	Middleton, . . . . .	3,002 22	5,763 13	181	142	16 59	21 14	40 59
186	247	Royalston, . . . . .	2,976 74	5,647 82	130	141	22 90	21 11	40 06
195	248	Northfield, . . . . .	5,924 55	8,161 84	268	282	22 11	21 01	28 94
207	249	Medway, . . . . .	9,751 66	11,374 51	450	466	21 67	20 93	24 41

175	Carver, .	4,246 01	6,867 76	210	205	20 22	20 71	33 50
273	West Bridgewater, .	7,592 02	8,941 38	409	369	18 78	20 57	24 33
325	Tisbury, .	4,018 51	5,181 01	197	196	20 40	20 50	26 43
209	Uxbridge, .	16,991 18	19,142 59	861	829	19 73	20 50	23 09
286	Eastham, .	1,454 37	3,677 40	82	71	17 74	20 48	51 79
165	Richmond, .	1,648 10	3,448 71	111	81	14 85	20 35	42 58
300	Rochester, .	2,888 56	5,238 92	148	143	19 52	20 20	36 64
237	Upton, .	6,499 60	8,687 67	306	322	21 24	20 19	26 98
194	Georgetown, .	5,899 65	7,598 56	360	293	16 39	20 14	25 93
275	Orleans, .	3,855 26	6,276 14	165	192	23 37	20 08	32 69
259	Dana, .	2,207 85	5,237 51	121	110	18 25	20 07	47 61
132	Buckland, .	4,032 25	7,184 60	220	203	18 33	20 06	35 74
301	Hinsdale, .	4,089 16	6,099 38	233	201	17 46	20 05	30 05
294	Bolton, .	2,304 03	5,008 62	111	115	20 76	20 04	43 55
261	Lanesborough, .	2,583 13	4,497 63	150	129	17 22	20 02	34 87
230	Millis, .	4,957 10	6,828 95	258	248	19 21	19 99	27 54
263	Paxton, .	1,512 27	3,109 14	81	76	18 67	19 90	40 91
310	Hubbardston, .	3,752 06	5,475 42	198	189	13 90	19 85	28 97
267	Groveland, .	8,466 97	10,342 21	417	427	20 30	19 83	24 22
287	Russell, .	3,074 15	5,034 02	166	155	18 52	19 83	32 48
243	Montgomery, .	652 83	1,879 51	36	33	18 13	19 78	56 95
323	Whately, .	1,814 51	4,201 19	121	92	15 00	19 72	45 67
164	Swansea, .	5,479 99	7,785 95	316	279	17 34	19 64	27 91
241	West Stockbridge, .	3,087 20	6,072 01	198	158	15 59	19 54	38 43
178	Hadley, .	5,961 21	10,949 32	316	306	18 86	19 48	35 78
293	Holbrook, .	9,765 85	11,288 87	477	502	20 47	19 45	22 49
285	Chesterfield, .	1,523 87	3,474 23	101	79	15 09	19 29	43 98
219	Ashfield, .	3,424 00	6,413 37	156	178	21 95	19 24	36 03
260	Barnardston, .	2,293 93	5,113 66	116	120	19 78	19 16	42 61
311	Sterling, .	4,205 28	6,777 58	200	220	21 03	19 11	30 81
256	Ashburnham, .	6,649 31	8,126 08	356	348	18 68	19 11	23 35
251	Rutland, .	3,936 14	5,862 32	208	209	19 02	18 92	28 05
283	Sutton, .	8,331 92	10,168 72	736	443	11 32	18 81	22 95
282	Peru, .	713 87	2,224 67	53	38	13 47	18 79	58 54
329	Hatfield, .	4,799 47	6,241 52	260	256	18 46	18 75	24 38
250	Rehoboth, .	5,520 28	6,150 28	348	296	15 86	18 65	20 78
271	Becket, .	2,488 45	5,344 28	173	134	14 38	18 57	39 87
274	Freetown, .	4,441 13	6,187 86	274	240	16 21	18 50	25 78
296	Monterey, .	1,071 43	2,483 57	61	58	17 56	18 47	42 82
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Table showing the comparative amounts of money expended for the support, etc. — Concluded.

Rank according to the amount yielded for each child in the average membership of the public schools by the local tax for school support.	TOWNS AND CITIES.	AMOUNT EXPENDED FOR THE SUPPORT OF THE PUBLIC SCHOOLS FROM THE —		NUMBER OF CHILDREN —		Amount of local tax for school support for each child between five and fifteen years of age.	AMOUNT YIELDED FOR EACH CHILD IN THE AVERAGE MEMBERSHIP OF THE PUBLIC SCHOOLS BY THE —	
		Local tax only.	Local tax plus the State and other contributions.	In town between five and fifteen years of age.	In the average membership of the public schools.		Local tax for support.	Local tax plus the State and other contributions.
<b>1908-9.</b>								
163	Boxborough, .	\$939 93	\$2,967 73	66	51	\$14 24	\$18 43	\$58 19
289	Douglas, .	5,937 28	7,930 81	332	323	17 89	18 38	24 55
267	Otis, .	1,618 03	2,658 34	73	90	22 16	17 98	29 54
321	Greenwich, .	950 00	2,365 04	82	53	11 59	17 92	44 62
269	Raynham, .	3,577 63	6,075 89	262	202	13 66	17 71	30 08
316	Hanson, .	4,824 50	6,426 15	324	274	14 89	17 61	23 45
265	Wendell, .	1,090 63	2,852 77	95	62	11 48	17 59	46 01
311	Leverett, .	2,265 31	4,350 76	136	129	16 66	17 56	33 73
345	Windsor, .	1,525 20	3,169 22	89	87	17 14	17 53	36 43
322	Charlton, .	6,051 99	8,783 28	359	347	16 86	17 44	25 31
287	Chester, .	4,684 00	8,013 80	287	271	16 32	17 28	29 57
281	Berlin, .	2,604 30	5,454 30	169	151	15 41	17 25	36 12
270	Templeton, .	10,329 48	12,221 83	707	599	14 61	17 24	20 40
295	Sandisfield, .	1,612 00	2,968 27	106	96	15 21	16 79	30 92
268	Avon, .	6,576 06	8,717 30	382	392	17 21	16 78	22 24
297	New Braintree, .	1,320 38	2,862 06	100	79	13 20	16 71	36 23
319	Westminster, .	4,361 54	6,112 36	250	261	17 45	16 71	23 42
303	Provincetown, .	15,737 37	17,716 78	783	949	20 10	16 58	18 67
328	Savoy, .	1,256 21	2,986 10	91	76	13 80	16 53	39 29
318	Shutesbury, .	560 35	1,531 78	42	34	13 34	16 48	45 05
279	Blackstone, .	18,931 66	19,984 46	1,139	1,159	16 62	16 33	17 24
302	Charlton, .	3,025 00	6,222 55	171	186	17 69	16 26	33 45
288	Goshen, .	844 75	2,355 15	64	52	13 20	16 25	45 29
333	Plainfield, .	919 03	2,523 64	57	57	16 12	16 12	44 27
335	Salisbury, .	3,945 67	5,636 79	288	245	13 70	16 10	23 01
292	Worthington, .	1,488 81	3,652 16	103	93	14 45	16 01	39 27
299	Southampton, .	2,134 22	4,318 40	142	135	15 03	15 81	31 99
317	Phillipston, .	1,178 65	2,640 02	81	75	14 55	15 72	33 87
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<b>1909-10.</b>								



## SCHOOL RETURNS.

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280	317	Auburn,	6,311 94	8,325 10	506	402	12 47	15 70	20 71
326	318	Leyden,	915 13	2,101 50	67	60	13 66	15 25	35 03
290	319	Cotnam,	4,240 94	7,121 85	302	279	14 04	15 20	25 53
347	320	Brimfield,	2,333 97	3,976 78	153	155	15 25	15 06	25 66
324	321	Gill,	1,941 37	3,896 72	164	129	11 84	15 05	30 21
284	322	Seekonk,	5,017 47	7,057 85	455	334	11 03	15 02	21 13
305	323	Granville,	2,119 79	3,964 39	157	142	13 50	14 93	27 92
327	324	Huntington,	5,432 86	8,303 49	272	301	19 97	14 73	27 59
325	325	Belchertown,	5,214 43	8,090 63	377	361	13 83	14 44	22 41
315	326	Williamsburg,	5,606 66	9,150 26	389	389	14 41	14 41	23 52
198	327	North Reading,	1,986 15	5,166 56	157	139	12 65	14 29	37 16
332	328	Plymouth, <sup>1</sup>	1,026 74	2,060 83	94	72	10 92	14 26	28 62
341	329	Hawley,	1,119 23	2,931 75	95	79	11 78	14 17	37 11
330	330	Somerset,	6,795 50	8,085 00	497	483	13 67	16 74	37 11
346	331	Prescott,	816 44	2,396 27	70	59	11 66	13 84	40 61
98	332	Blandford,	1,260 68	3,580 03	105	93	12 01	13 56	38 49
309	333	East Longmeadow,	4,502 10	8,642 52	346	335	13 01	13 44	25 80
336	334	Rowley,	3,355 40	5,576 20	278	251	12 07	13 37	22 22
343	335	Alford,	600 00	2,110 06	49	45	12 24	13 33	46 89
342	336	Westhampton,	1,126 12	2,572 53	89	85	12 65	13 25	30 27
298	337	Rowe,	1,088 51	2,873 18	100	83	10 89	13 11	34 62
338	338	Hancock,	949 43	2,416 08	96	74	9 89	12 83	32 65
314	339	Monroe,	657 92	1,921 65	50	52	13 16	12 65	36 95
313	340	Hampden,	1,432 32	3,655 45	102	115	14 04	12 45	31 79
308	341	Wales,	842 46	2,435 46	60	68	14 04	12 39	35 82
334	342	Cumington,	1,488 74	4,293 48	134	124	11 11	12 00	34 62
349	343	Truro,	1,500 41	3,166 44	145	130	10 35	11 54	24 36
307	344	Middlefield,	1,117 21	3,640 46	77	97	14 51	11 52	37 53
345	345	Tyringham,	523 22	2,068 57	74	46	7 07	11 37	44 97
350	346	West Tisbury,	648 01	2,763 12	61	64	10 62	10 13	43 17
348	347	Oakham,	904 11	2,582 01	111	100	8 15	9 04	25 82
344	348	Berkley,	1,508 15	3,731 56	175	168	8 62	8 98	22 21
337	349	Pelham,	655 24	2,765 84	100	75	6 55	8 74	36 88
339	350	Clarksburg,	1,531 70	4,101 16	230	194	7 90	7 60	21 14
351	351	Florida,	577 69	2,083 31	85	76	6 80	7 60	27 41
352	352	Gosnold,	75 00	612 44	12	11	6 25	6 81	55 68
352	353	New Ashford,	66 94	892 41	20	16	3 35	4 18	55 78
354	354	Gay Head,	88 14	1,423 66	37	33	2 38	2 67	43 14

† Financial returns cover a period of eleven months only.

GRADUATED TAXATION TABLE.

Rank according to the amount yielded for each child in the average membership of the public schools by the local tax for school support.	COUNTIES.	AMOUNT EXPENDED FOR THE SUPPORT OF THE PUBLIC SCHOOLS FROM THE —		NUMBER OF CHILDREN —		Amount of local tax for school support for each child between five and fifteen years of age.	AMOUNT YIELDED FOR EACH CHILD IN THE AVERAGE MEMBERSHIP OF THE PUBLIC SCHOOLS BY THE —	
		Local tax only.	Local tax plus the State and other contributions.	In town between five and fifteen years of age.	In the average membership of the public schools.		Local tax for support	Local tax plus the State and other contributions.
<b>1909-1910.</b>								
1	Suffolk, .	\$4,225,116 42	\$4,271,478 99	126,001	107,793	\$33 53	\$39 20	\$38 70
2	Hamden, .	1,031,614 77	1,088,111 12	38,297	30,697	26 94	33 61	35 45
3	Norfolk, .	982,318 42	1,013,323 94	32,326	30,118	30 39	32 62	33 65
4	Middlesex, .	3,217,502 06	3,302,606 16	107,801	101,513	29 85	31 70	32 53
5	Essex, .	1,644,695 49	1,681,969 27	68,953	55,645	23 85	29 56	30 23
6	Worcester, .	1,588,539 05	1,694,740 50	65,818	54,175	24 14	29 32	31 28
7	Barnstable, .	128,298 53	153,378 56	4,184	4,378	30 66	28 03	33 50
8	Bristol, .	1,082,438 01	1,148,819 27	54,990	38,955	19 68	27 79	29 49
9	Plymouth, .	613,048 54	655,377 67	21,898	22,233	27 95	27 57	29 48
10	Berkshire, .	426,703 82	472,456 37	18,937	15,776	22 53	27 05	29 95
11	Nantucket, .	11,261 08	11,261 08	445	440	25 30	25 54	25 54
12	Franklin, .	173,067 42	225,307 31	7,281	7,052	23 77	24 54	31 95
13	Hampshire, .	222,733 34	271,887 82	10,889	9,401	20 45	23 70	28 92
14	Dukes, .	14,821 14	22,004 41	689	693	21 51	21 39	31 75

AGGREGATE FOR THE STATE.

State, . . . . .	\$15,362,158 09	\$16,012,722 47	558,509	479,069	\$27 51	\$32 07	\$33 42
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## II. GRADUATED VALUATION TABLE.

*A graduated table in which all the towns in the State are numerically arranged according to the proportion of their taxable property appropriated for the support of public schools for the year 1909-1910.*

For 1908-1909, by the State valuation of 1908.	For 1909-1910, by the State valuation of 1909.	TOWNS AND CITIES.	Amount appropriated to the support of public schools for each thousand dol- lars of valuation.	For 1908-1909, by the State valuation of 1908.	For 1909-1910, by the State valuation of 1909.	TOWNS AND CITIES.	Amount appropriated to the support of public schools for each thousand dol- lars of valuation.
1	1	West Boylston, . . .	\$10 56	56	48	Palmer, . . .	\$6 73
4	2	Abington, . . .	9 14	67	49	Spencer, . . .	6 71
6	3	Plainville, . . .	8 88	29	50	Hudson, . . .	6 70
5	4	Huntington, . . .	8 59	38	51	Middleborough, . . .	6 68
10	5	Blackstone, . . .	8 34	24	52	Ashland, . . .	6 68
13	6	Grafton, . . .	8 34	121	53	Revere, . . .	6 68
7	7	Monson, . . .	7 87	119	54	Acton, . . .	6 66
21	8	Bellingham, . . .	7 80	58	55	Westfield, . . .	6 66
14	9	Norton, . . .	7 80	69	56	Franklin, . . .	6 65
11	10	South Hadley, . . .	7 69	100	57	Gardner, . . .	6 64
75	11	Provincetown, . . .	7 69	115	58	Savoy, . . .	6 61
76	12	Hopkinton, . . .	7 67	53	59	Sturbridge, . . .	6 59
9	13	Norwell, . . .	7 67	98	60	Braintree, . . .	6 58
20	14	Northbridge, . . .	7 63	32	61	Chester, . . .	6 56
12	15	Montague, . . .	7 60	46	62	Athol, . . .	6 53
16	16	Warren, . . .	7 58	99	63	Templeton, . . .	6 51
39	17	Randolph, . . .	7 57	112	64	Sutton, . . .	6 45
45	18	New Salem, . . .	7 52	158	65	Cheshire, . . .	6 45
25	19	Orange, . . .	7 42	110	66	Chicopee, . . .	6 45
72	20	Sunderland, . . .	7 42	78	67	Westford, . . .	6 44
19	21	Oxford, . . .	7 38	131	68	Conway, . . .	6 42
33	22	Adams, . . .	7 37	57	69	Merrimac, . . .	6 42
52	23	Ashby, . . .	7 35	60	70	Wilbraham, . . .	6 42
36	24	Millbury, . . .	7 29	49	71	Petersham, . . .	6 40
2	25	West Stockbridge, . . .	7 29	95	72	Warwick, . . .	6 37
48	26	Groveland, . . .	7 28	97	73	Holliston, . . .	6 37
37	27	Brookfield, . . .	7 23	62	74	Clinton, . . .	6 36
41	28	Weymouth, . . .	7 16	71	75	Walpole, . . .	6 35
206	29	Leverett, . . .	7 15	94	76	Wilmington, . . .	6 34
44	30	Bridgewater, . . .	7 11	85	77	Reading, . . .	6 33
17	31	Dighton, . . .	7 10	65	78	Barre, . . .	6 32
86	32	Hawley, . . .	7 08	138	79	Methuen, . . .	6 30
77	33	Hinsdale, . . .	7 05	43	80	East Longmeadow, . . .	6 30
34	34	Rockland, . . .	7 04	59	81	Rehoboth, . . .	6 29
54	35	Ware, . . .	7 00	194	82	Sandwich, . . .	6 29
73	36	Natick, . . .	6 95	8	83	Colrain, . . .	6 28
63	37	Danvers, . . .	6 93	84	84	Kingston, . . .	6 27
31	38	Ashburnham, . . .	6 92	139	85	Fairhaven, . . .	6 26
111	39	Granby, . . .	6 89	107	86	Acushnet, . . .	6 25
68	40	Dracut, . . .	6 88	91	87	Whitman, . . .	6 25
50	41	Lee, . . .	6 86	89	88	Townsend, . . .	6 20
64	42	Saugus, . . .	6 86	162	89	Maynard, . . .	6 20
35	43	Avon, . . .	6 84	105	90	Stonham, . . .	6 17
40	44	Everett, . . .	6 77	23	91	Boylston, . . .	6 14
18	45	Hardwick, . . .	6 75	92	92	Littleton, . . .	6 13
28	46	Medway, . . .	6 73	87	93	Tyngsborough, . . .	6 13
79	47	Holbrook, . . .	6 73	66	94	Brockton, . . .	6 12

For 1908-1909, by the State valuation of 1908.	For 1909-1910, by the State valuation of 1909.	TOWNS AND CITIES.	Amount appropriated to the support of public schools for each thousand dol- lars of valuation.	For 1908-1909, by the State valuation of 1908.	For 1909-1910, by the State valuation of 1909.	TOWNS AND CITIES.	Amount appropriated to the support of public schools for each thousand dol- lars of valuation.
88	95	Leicester, . . .	\$6 12	285	155	Lakeville, . . .	\$5 38
96	96	Dudley, . . .	6 12	176	156	West Newbury, . . .	5 35
114	97	Orleans, . . .	6 11	153	157	Peabody, . . .	5 33
125	98	Dartmouth, . . .	6 09	149	158	Andover, . . .	5 33
82	99	Leominster, . . .	6 09	136	159	Westport, . . .	5 32
181	100	Dunstable, . . .	6 06	169	160	Winchendon, . . .	5 32
103	101	Foxborough, . . .	6 02	228	161	Enfield, . . .	5 30
106	102	Pepperell, . . .	6 00	74	162	Malden, . . .	5 29
108	103	Wrentham, . . .	5 98	157	163	Needham, . . .	5 29
30	104	Middlefield, . . .	5 98	175	164	West Springfield, . . .	5 26
134	105	West Bridgewater, . . .	5 97	286	165	Plainfield, . . .	5 23
122	106	Melrose, . . .	5 96	61	166	Royalston, . . .	5 22
93	107	Uxbridge, . . .	5 96	154	167	Harwich, . . .	5 21
129	108	Marlborough, . . .	5 95	256	168	Bernardston, . . .	5 21
117	109	Hanover, . . .	5 93	126	169	Mendon, . . .	5 20
70	110	Williamstown, . . .	5 91	172	170	Rockport, . . .	5 20
102	111	Upton, . . .	5 90	225	171	Chatham, . . .	5 19
137	112	Framingham, . . .	5 90	207	172	Stow, . . .	5 19
146	113	Sheffield, . . .	5 89	184	173	Shirley, . . .	5 19
3	114	Clarksburg, . . .	5 82	143	174	Northborough, <sup>1</sup> . . .	5 18
47	115	Charlemont, . . .	5 80	168	175	Worcester, . . .	5 17
101	116	Ludlow, . . .	5 80	130	176	Wayland, . . .	5 15
183	117	Otis, . . .	5 80	338	177	Southwick, . . .	5 13
118	118	New Marlborough, . . .	5 78	127	178	Auburn, . . .	5 13
123	119	East Bridgewater, . . .	5 76	200	179	Holyoke, . . .	5 08
83	120	Georgetown, . . .	5 75	198	180	Norfolk, . . .	5 07
120	121	Somerville, . . .	5 75	186	181	Peru, . . .	5 07
80	122	Wakefield, . . .	5 73	265	182	Deerfield, . . .	5 05
81	123	Holden, . . .	5 73	204	183	Ayer, . . .	5 05
116	124	Taunton, . . .	5 72	160	184	Chelmsford, . . .	5 05
165	125	North Andover, . . .	5 71	202	185	Concord, . . .	5 04
124	126	Stoughton, . . .	5 71	161	186	Dennis, . . .	5 03
51	127	Williamsburg, . . .	5 70	104	187	Millis, . . .	4 98
26	128	Chelsea, . . .	5 70	239	188	Freetown, . . .	4 97
141	129	Medford, . . .	5 70	210	189	Gloucester, . . .	4 96
109	130	Belchertown, . . .	5 69	209	190	Amherst, . . .	4 94
55	131	Mansfield, . . .	5 69	166	191	Gt. Barrington, . . .	4 93
164	132	Buckland, . . .	5 67	208	192	Canton, . . .	4 93
155	133	Woburn, . . .	5 63	271	193	Hyde Park, . . .	4 92
133	134	Haverhill, . . .	5 63	185	194	Attleborough, . . .	4 90
42	135	N. Attleborough, . . .	5 62	174	195	Somerset, . . .	4 89
27	136	Dana, . . .	5 60	190	196	Barnstable, . . .	4 88
148	137	Arlington, . . .	5 58	189	197	Lanesborough, . . .	4 84
90	138	Rowe, . . .	5 58	264	198	Mashpee, . . .	4 83
147	139	North Adams, . . .	5 57	216	199	Quincy, . . .	4 83
145	140	Agawam, . . .	5 57	177	200	Chesterfield, . . .	4 83
113	141	Northampton, . . .	5 56	217	201	Fitchburg, . . .	4 82
150	142	Pittsfield, . . .	5 56	214	202	Douglas, . . .	4 81
151	143	Westminster, . . .	5 55	197	203	Tewksbury, . . .	4 81
128	144	Ashfield, . . .	5 55	167	204	Heath, . . .	4 80
248	145	Leyden, . . .	5 53	132	205	Becket, . . .	4 80
178	146	N. Brookfield, . . .	5 49	237	206	Belmont, . . .	4 80
159	147	Southborough, . . .	5 49	220	207	Lexington, . . .	4 78
163	148	Windsor, . . .	5 49	199	208	Billerica, . . .	4 78
142	149	Westborough, . . .	5 49	140	209	Shrewsbury, . . .	4 78
135	150	Rutland, . . .	5 49	259	210	Greenfield, . . .	4 78
179	151	Pembroke, . . .	5 47	182	211	Dalton, . . .	4 78
221	152	Hubbardston, . . .	5 44	173	212	Westhampton, . . .	4 76
152	153	Sudbury, . . .	5 44	144	213	Milford, . . .	4 76
170	154	Essex, . . .	5 43	222	214	Plymouth, . . .	4 70

<sup>1</sup> Fiscal school returns cover a period of 11 months only.

## SCHOOL RETURNS.

CXV

For 1908-1909, by the State valuation of 1908.	For 1909-1910, by the State valuation of 1909.	TOWNS AND CITIES.	Amount appropriated to the support of public schools for each thousand dol- lars of valuation.	For 1908-1909, by the State valuation of 1908.	For 1909-1910, by the State valuation of 1909.	TOWNS AND CITIES.	Amount appropriated to the support of public schools for each thousand dol- lars of valuation.
203	215	Lowell, . . . .	\$4 69	326	275	Edgartown, . . .	\$3 91
247	216	Winthrop, . . .	4 68	156	276	Monroe, . . . .	3 90
205	217	Sandisfield, . .	4 67	224	277	Seekonk, . . . .	3 88
240	218	Cambridge, . . .	4 66	323	278	Burlington, . . .	3 87
226	219	Raynham, . . . .	4 65	299	279	Greenwich, . . .	3 85
278	220	Goshen, . . . . .	4 65	291	280	Washington, . . .	3 85
201	221	Lawrence, . . . .	4 64	292	281	Webster, . . . . .	3 85
277	222	West Brookfield, .	4 63	261	282	Berkley, . . . . .	3 84
257	223	Bolton, . . . . .	4 63	322	283	Montgomery, . . .	3 82
211	224	Springfield, . . .	4 62	231	284	Middleton, . . . .	3 79
266	225	Lunenburg, . . . .	4 62	297	285	Sharon, . . . . .	3 77
218	226	Charlton, . . . . .	4 60	254	286	Hampden, . . . . .	3 75
215	227	Shelburne, . . . .	4 60	268	287	Sterling, . . . . .	3 71
234	228	Salem, . . . . .	4 59	275	288	Medfield, . . . . .	3 68
303	229	Paxton, . . . . .	4 54	296	289	Stockbridge, . . .	3 68
193	230	Granville, . . . .	4 52	325	290	Egremont, . . . .	3 65
227	231	Amesbury, . . . .	4 52	301	291	Hatfield, . . . . .	3 62
223	232	Easton, . . . . .	4 52	276	292	Longmeadow, . . .	3 61
245	233	Rowley, . . . . .	4 49	320	293	Chilmark, . . . . .	3 60
281	234	Rochester, . . . .	4 49	233	294	Swansea, . . . . .	3 53
229	235	Richmond, . . . .	4 48	196	295	Boxborough, . . .	3 52
171	236	Brewster, . . . . .	4 47	282	296	Newburyport, . . .	3 51
267	237	Hanson, . . . . .	4 47	294	297	Beverly, . . . . .	3 51
212	238	Cummington, . . .	4 46	284	298	Bedford, . . . . .	3 44
242	239	Harvard, . . . . .	4 46	317	299	Mattapoisett, . . .	3 44
241	240	Lynn, . . . . .	4 46	304	300	Monterey, . . . . .	3 43
260	241	Salisbury, . . . .	4 43	351	301	Tolland, . . . . .	3 43
180	242	Southbridge, . . .	4 42	15	302	Bourne, . . . . .	3 42
280	243	Hadley, . . . . .	4 41	289	303	Ipswich, . . . . .	3 41
244	244	Erving, . . . . .	4 39	309	304	Westwood, . . . .	3 41
258	245	Northfield, . . . .	4 38	274	305	Lancaster, . . . .	3 34
252	246	Dedham, . . . . .	4 37	327	306	Nantucket, . . . .	3 34
311	247	Duxbury, . . . . .	4 37	329	307	New Braintree, . . .	3 33
269	248	Newton, . . . . .	4 36	308	308	Eastham, . . . . .	3 29
231	249	Hingham, . . . . .	4 35	345	309	Yarmouth, . . . .	3 28
316	250	Prescott, . . . . .	4 35	314	310	Swampscott, . . . .	3 27
230	251	Winchester, . . . .	4 33	319	311	Alford, . . . . .	3 25
250	252	Fall River, . . . .	4 33	22	312	Norwood, . . . . .	3 21
273	253	Carlisle, . . . . .	4 33	300	313	Halifax, . . . . .	3 20
272	254	Southampton, . . .	4 29	302	314	Lenox, . . . . .	3 18
236	255	Princeton, . . . . .	4 28	312	315	Hancock, . . . . .	3 16
255	256	Waltham, . . . . .	4 23	298	316	Holland, . . . . .	3 13
219	257	Worthington, . . .	4 22	293	317	Groton, . . . . .	3 13
249	258	Marblehead, . . . .	4 18	313	318	Sherborn, . . . . .	3 12
191	259	Russell, . . . . .	4 17	324	319	Lynnfield, . . . . .	3 12
310	260	Brimfield, . . . . .	4 17	263	320	Florida, . . . . .	3 11
251	261	Phillipston, . . . .	4 15	305	321	Wellfleet, . . . . .	3 08
253	262	Easthampton, . . .	4 14	306	322	Wellesley, . . . . .	3 05
287	263	Watertown, . . . .	4 14	307	323	Gay Head, . . . . .	3 02
270	264	Wendell, . . . . .	4 13	321	324	Milton, . . . . .	3 01
288	265	Gill, . . . . .	4 12	328	325	Weston, . . . . .	2 96
187	266	Berlin, . . . . .	4 07	262	326	Wales, . . . . .	2 95
290	267	Newbury, . . . . .	4 04	335	327	Boston, . . . . .	2 91
213	268	Wareham, . . . . .	4 03	330	328	Lincoln, . . . . .	2 86
295	269	Truro, . . . . .	4 03	332	329	Falmouth, . . . . .	2 86
238	270	Marshfield, . . . .	4 00	246	330	North Reading, . . .	2 83
188	271	Whately, . . . . .	3 97	315	331	Carver, . . . . .	2 82
283	272	New Bedford, . . . .	3 96	346	332	Tisbury, . . . . .	2 75
243	273	Scituate, . . . . .	3 95	337	333	Hopedale, . . . . .	2 74
235	274	Mt. Washington, . .	3 95	339	334	Plympton, <sup>1</sup> . . . .	2 73

<sup>1</sup> Fiscal school returns cover a period of 11 months only.

For 1908-1909, by the State valuation of 1908.	For 1909-1910, by the State valuation of 1909.	TOWNS AND CITIES.	Amount appropriated to the support of public schools for each thousand dol- lars of valuation.	For 1908-1909, by the State valuation of 1908.	For 1909-1910, by the State valuation of 1909.	TOWNS AND CITIES.	Amount appropriated to the support of public schools for each thousand dol- lars of valuation.
342	335	Oak Bluffs, . . .	\$2 60	192	345	Tyringham, . . .	\$1 96
334	336	Cohasset, . . .	2 56	347	346	Brookline, . . .	1 84
341	337	Topsfield, . . .	2 56	349	347	Manchester, . . .	1 71
336	338	Oakham, . . .	2 38	344	348	Boxford, . . .	1 55
195	339	Blandford, . . .	2 36	352	349	Nahant, . . .	1 42
279	340	Pelham, . . .	2 34	350	350	Marion, . . .	1 34
318	341	Shutesbury, . . .	2 16	348	351	New Ashford, . . .	1 32
340	342	Wenham, . . .	2 16	353	352	West Tisbury, . . .	1 19
343	343	Hull, . . .	2 15	331	353	Dover, . . .	1 05
333	344	Hamilton, . . .	2 13	354	354	Gosnold, . . .	13

## GRADUATED VALUATION TABLE.

*Showing the different counties in the State, numerically arranged, according to the proportion of their taxable property appropriated for the support of public schools for the year 1909-1910.*

For 1909-1910, by the State valuation of 1909.	COUNTIES.	Amount appropriated to the support of public schools for each thousand dol- lars of valuation.	Amount raised by local taxation and ex- pended for the sup- port of public schools, being the total ex- penditure for such support diminished by contributions from other sources than local taxation.	Valuation of 1909.
1	Franklin, . . . . .	\$5 68	\$173,067 42	\$30,461,052
2	Hampshire, . . . . .	5 49	222,733 34	40,546,131
3	Worcester, . . . . .	5 37	1,588,539 05	295,779,839
4	Berkshire, . . . . .	5 34	426,703 82	79,888,118
5	Plymouth, . . . . .	5 32	613,048 54	115,325,701
6	Middlesex, . . . . .	5 10	3,217,502 06	630,915,750
7	Hampden, . . . . .	5 06	1,031,614 77	203,774,874
8	Bristol, . . . . .	4 54	1,082,438 01	238,343,012
9	Essex, . . . . .	4 44	1,644,695 49	370,431,845
10	Barnstable, . . . . .	4 21	128,298 53	30,457,740
11	Norfolk, . . . . .	3 47	982,318 42	282,706,037
12	Nantucket, . . . . .	3 34	11,261 08	3,367,950
13	Suffolk, . . . . .	3 01	4,225,116 42	1,399,666,787
14	Dukes, . . . . .	2 55	14,821 14	5,805,859

## AGGREGATE FOR THE STATE.

State, . . . . .	\$4 23	\$15,362,158 09	\$3,727,473,635
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## III. GRADUATED ATTENDANCE TABLE.

*In which all the towns in the State are numerically arranged according to the ratio of AVERAGE ATTENDANCE of children upon the public schools for the school year ending June, 1909, to the whole number of children in town between 5 and 15 years of age, September 1, 1909.*

	TOWNS AND CITIES.	No. of children between 5 and 15 years of age in each town.	Average attendance upon school.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.		TOWNS AND CITIES.	No. of children between 5 and 15 years of age in each town.	Average attendance upon school.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.
1	Yarmouth, . . .	128	193	1.51	42	Westborough, . . .	662	666	1.01
2	Wellesley, . . .	726	844	1.16	43	Charlemon, . . .	171	172	1.01
3	Bourne, . . .	261	302	1.16	44	Melrose, . . .	2,869	2,882	1.00
4	Middlefield, . . .	77	89	1.16	45	Williamstown, . . .	744	747	1.00
5	Abington, . . .	748	857	1.15	46	Ayer, . . .	417	417	1.00
6	Provincetown, . . .	783	885	1.13	47	Mendon, . . .	140	140	1.00
7	New Salem, . . .	88	99	1.13	48	Hopkinton, . . .	419	418	.99
8	Littleton, . . .	187	210	1.12	49	Sandwich, . . .	251	250	.99
9	Hopedale, . . .	354	388	1.10	50	Holbrook, . . .	477	475	.99
10	Wakefield, . . .	1,895	2,069	1.09	51	Sterling, . . .	200	199	.99
11	Ashfield, . . .	156	170	1.09	52	Milton, . . .	1,335	1,328	.99
12	Dennis, . . .	248	270	1.09	53	Bridgewater, . . .	751	747	.99
13	Merrimac, . . .	307	334	1.09	54	Nahant, . . .	164	163	.99
14	Orleans, . . .	165	179	1.08	55	Topsfield, . . .	109	108	.99
15	Medfield, . . .	229	248	1.08	56	Everett, . . .	6,181	6,119	.98
16	Manchester, . . .	418	451	1.08	57	Revere, . . .	3,273	3,240	.98
17	Framingham, . . .	1,815	1,945	1.07	58	Gloucester, . . .	4,604	4,556	.98
18	Easton, . . .	889	952	1.07	59	Greenfield, . . .	1,624	1,600	.98
19	Orange, . . .	890	943	1.06	60	Holden, . . .	401	395	.98
20	Barnstable, . . .	657	695	1.06	61	West Tisbury, . . .	61	60	.98
21	Hingham, . . .	787	827	1.05	62	Groveland, . . .	417	410	.98
22	Natick, . . .	1,625	1,703	1.05	63	Ashland, . . .	277	272	.98
23	Whitman, . . .	1,144	1,197	1.05	64	Groton, . . .	313	307	.98
24	Reading, . . .	1,029	1,074	1.04	65	Upton, . . .	306	300	.98
25	Lenox, . . .	557	579	1.04	66	Monroe, . . .	50	49	.98
26	Wales, . . .	60	62	1.03	67	Dalton, . . .	669	655	.97
27	West Boylston, . . .	190	196	1.03	68	Wellfleet, . . .	132	129	.97
28	Norwood, . . .	1,480	1,525	1.03	69	Royalston, . . .	130	127	.97
29	Hampden, . . .	102	105	1.03	70	Lunenburg, . . .	212	207	.97
30	Dedham, . . .	1,525	1,568	1.03	71	Westminster, . . .	250	244	.97
31	Sudbury, . . .	176	180	1.02	72	Scituate, . . .	434	423	.97
32	Rockland, . . .	1,046	1,068	1.02	73	Bernardston, . . .	116	113	.97
33	Concord, . . .	921	938	1.02	74	N. Attleborough, . . .	1,278	1,244	.97
34	Weymouth, . . .	1,970	2,003	1.02	75	Marblehead, . . .	1,122	1,090	.97
35	Foxborough, . . .	517	525	1.02	76	Hanover, . . .	369	358	.97
36	Needham, . . .	862	875	1.02	77	Stoneham, . . .	1,107	1,071	.96
37	Otis, . . .	73	74	1.01	78	Huntington, . . .	272	263	.96
38	Essex, . . .	266	269	1.01	79	Northfield, . . .	268	259	.96
39	Maynard, . . .	754	762	1.01	80	Townsend, . . .	292	282	.96
40	Hull, . . .	198	200	1.01	81	Gt. Barrington, . . .	953	919	.96
41	Lexington, . . .	756	762	1.01	82	Blackstone, . . .	1,139	1,092	.95

	TOWNS AND CITIES.	No. of children between 5 and 15 years of age in each town.	Average attendance upon school.	Ratio of attendance to the whole No. of children between 5 and 15, ex- pressed in decimals.		TOWNS AND CITIES.	No. of children between 5 and 15 years of age in each town.	Average attendance upon school.	Ratio of attendance to the whole No. of children between 5 and 15, ex- pressed in decimals.
83	Shrewsbury, . . .	277	265	.95	143	Uxbridge, . . .	861	771	.89
84	Brookline, . . .	3,656	3,494	.95	144	Enfield, . . .	161	144	.89
85	Avon, . . .	382	365	.95	145	Acton, . . .	320	286	.89
86	Chatham, . . .	242	231	.95	146	Chelmsford, . . .	828	740	.89
87	South Hadley, . . .	862	823	.95	147	Braintree, . . .	1,450	1,293	.89
88	Franklin, . . .	949	904	.95	148	Berkley, . . .	175	156	.89
89	Medford, . . .	4,047	3,849	.95	149	Marshfield, . . .	239	213	.89
90	Danvers, . . .	1,492	1,418	.95	150	Arlington, . . .	2,066	1,838	.88
91	Amherst, . . .	864	821	.95	151	Rutland, . . .	208	185	.88
92	Beverly, . . .	3,121	2,962	.94	152	Belchertown, . . .	377	335	.88
93	Medway, . . .	450	427	.94	153	Hudson, . . .	1,138	1,011	.88
94	Brookton, . . .	8,634	8,188	.94	154	Belmont, . . .	879	780	.88
95	Norwell, . . .	230	218	.94	155	East Longmeadow, . . .	346	307	.88
96	East Bridgewater, . . .	549	520	.94	156	Newton, . . .	6,615	5,869	.88
97	Middleborough, . . .	1,286	1,218	.94	157	Athol, . . .	1,256	1,114	.88
98	Wrentham, . . .	231	218	.94	158	Holliston, . . .	484	429	.88
99	Weston, . . .	301	284	.94	159	Shelburne, . . .	211	187	.88
100	Kingston, . . .	417	393	.94	160	Pepperell, . . .	587	510	.88
101	Brimfield, . . .	153	144	.94	161	Douglas, . . .	332	294	.88
102	Wilmingon, . . .	380	357	.93	162	Montague, . . .	1,211	1,072	.88
103	Wayland, . . .	349	326	.93	163	Millis, . . .	258	227	.87
104	Falmouth, . . .	546	510	.93	164	West Springfield, . . .	1,753	1,542	.87
105	Tisbury, . . .	197	184	.93	165	Princeton, . . .	147	129	.87
106	Conway, . . .	212	198	.93	166	Westhampton, . . .	89	78	.87
107	Southborough, . . .	309	288	.93	167	Charlton, . . .	359	314	.87
108	Somerville, . . .	12,419	11,573	.93	168	Swampscott, . . .	819	715	.87
109	Petersham, . . .	146	136	.93	169	New Marlborough, . . .	181	158	.87
110	Erving, . . .	187	174	.93	170	Hubbardston, . . .	198	172	.86
111	Monson, . . .	660	614	.92	171	Leverett, . . .	136	118	.86
112	Boiton, . . .	111	103	.92	172	Sheffield, . . .	249	216	.86
113	Walpole, . . .	871	808	.92	173	Winchester, . . .	1,785	1,546	.86
114	Plymouth, . . .	2,089	1,929	.92	174	West Newbury, . . .	259	224	.86
115	Rockport, . . .	837	772	.92	175	Gay Head, . . .	37	32	.86
116	Edgartown, . . .	160	147	.91	176	Cheshire, . . .	249	215	.86
117	Hadley, . . .	316	290	.91	177	Truro, . . .	145	125	.86
118	Bellingham, . . .	298	273	.91	178	Ipswich, . . .	822	708	.86
119	Oak Bluffs, . . .	190	174	.91	179	Dunstable, . . .	79	68	.86
120	Norfolk, . . .	166	152	.91	180	Southampton, . . .	142	122	.85
121	Somerset, . . .	497	455	.91	181	Buckland, . . .	220	189	.85
122	Nantucket, . . .	445	407	.91	182	Newbury, . . .	205	176	.85
123	Oxford, . . .	573	523	.91	183	Ashby, . . .	134	115	.85
124	Plainfield, . . .	57	52	.91	184	Pittsfield, . . .	4,985	4,275	.85
125	Duxbury, . . .	271	247	.91	185	Brookfield, . . .	377	323	.85
126	North Andover, . . .	900	820	.91	186	Attleborough, . . .	2,581	2,210	.85
127	Cambridge, . . .	15,827	14,414	.91	187	Boylston, . . .	137	117	.85
128	Northborough, . . .	313	285	.91	188	Worcester, . . .	21,349	18,232	.85
129	Andover, . . .	1,197	1,089	.90	189	Windor, . . .	89	76	.85
130	Cohasset, . . .	445	403	.90	190	Chester, . . .	287	245	.85
131	Stow, . . .	201	182	.90	191	Paxton, . . .	81	69	.85
132	Ashburnham, . . .	356	322	.90	192	Rochester, . . .	148	126	.85
133	Williamsburg, . . .	389	351	.90	193	Grafton, . . .	926	785	.84
134	Mansfield, . . .	847	764	.90	194	Colrain, . . .	302	256	.84
135	Winthrop, . . .	1,647	1,484	.90	195	Wilbraham, . . .	243	206	.84
136	Dighton, . . .	333	300	.90	196	Granby, . . .	129	109	.84
137	Hatfield, . . .	260	234	.90	197	Russell, . . .	166	140	.84
138	Springfield, . . .	13,209	11,878	.89	198	Rowley, . . .	278	234	.84
139	Randolph, . . .	747	671	.89	199	Phillipston, . . .	81	68	.83
140	Wareham, . . .	661	593	.89	200	Carver, . . .	210	176	.83
141	Saugus, . . .	1,581	1,418	.89	201	Monterey, . . .	61	51	.83
142	Cumington, . . .	134	120	.89	202	Halifax, . . .	73	61	.83



## SCHOOL RETURNS.

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203	Malden, . . .	7,893	6,595	.83	263	Stockbridge, . .	400	306	.76
204	Worthington, . .	103	86	.83	264	Holland, . . .	17	13	.76
205	Westford, . . .	448	374	.83	265	Marlborough, . .	2,919	2,230	.76
206	Ludlow, . . .	822	686	.83	266	Dover, . . .	127	97	.76
207	West Bridgewater, .	409	341	.83	267	Heath, . . .	46	35	.76
208	Gosnold, . . .	12	10	.83	268	Lynn, . . .	12,784	9,726	.76
209	Northbridge, . .	1,637	1,363	.83	269	Chelsea, . . .	5,554	4,219	.75
210	Oakham, . . .	111	92	.82	270	Lee, . . .	740	562	.75
211	Berlin, . . .	169	140	.82	271	Dartmouth, . .	832	631	.75
212	Dana, . . .	121	100	.82	272	Clarksburg, . .	230	174	.75
213	Granville, . . .	157	129	.82	273	Warwick, . . .	135	102	.75
214	Pembroke, . . .	216	177	.81	274	Westport, . . .	533	402	.75
215	Leicester, . . .	738	602	.81	275	Freetown, . . .	274	206	.75
216	Southwick, . . .	160	130	.81	276	Northampton, . .	3,344	2,511	.75
217	Mattapoisett, . .	218	177	.81	277	Easthampton, . .	1,279	960	.75
218	Sharon, . . .	409	332	.81	278	Goshen, . . .	64	48	.75
219	Lincoln, . . .	158	128	.81	279	Tyngsborough, . .	140	105	.75
220	Fairhaven, . . .	987	798	.80	280	Clinton, . . .	2,411	1,808	.74
221	Milford, . . .	2,257	1,824	.80	281	Woburn, . . .	3,663	2,745	.74
222	Leyden, . . .	67	54	.80	282	Newburyport, . .	2,392	1,788	.74
223	Montgomery, . .	36	29	.80	283	Stoughton, . . .	1,044	779	.74
224	Sandisfield, . . .	106	85	.80	284	Westwood, . . .	242	180	.74
225	Plainville, . . .	232	186	.80	285	Warren, . . .	736	547	.74
226	Sunderland, . . .	156	125	.80	286	Haverhill, . . .	6,904	5,122	.74
227	Egremont, . . .	90	72	.80	287	Gill, . . .	164	122	.74
228	Bedford, . . .	165	132	.80	288	Palmer, . . .	1,526	1,130	.74
229	Florida, . . .	85	68	.80	289	Quincy, . . .	7,539	5,578	.73
230	BillERICA, . . .	468	374	.79	290	Shutesbury, . . .	42	31	.73
231	Harwich, . . .	368	294	.79	291	Waltham, . . .	3,923	2,894	.73
232	Sherborn, . . .	203	162	.79	292	Lynnfield, . . .	129	95	.73
233	Dracut, . . .	619	493	.79	293	Taunton, . . .	5,632	4,136	.73
234	Mashpee, . . .	49	39	.79	294	Lanesborough, . .	150	110	.73
235	Alford, . . .	49	39	.79	295	Lancaster, . . .	375	273	.72
236	Templeton, . . .	707	562	.79	296	Savoy, . . .	91	66	.72
237	Peabody, . . .	2,461	1,955	.79	297	West Brookfield, . .	209	151	.72
238	Winchendon, . .	1,161	921	.79	298	Agawam, . . .	562	406	.72
239	North Reading, . .	157	124	.79	299	West Stockbridge, . .	198	143	.72
240	Lakeville, . . .	168	133	.79	300	Auburn, . . .	506	365	.72
241	Swansea, . . .	316	249	.78	301	New Braintree, . .	100	72	.72
242	Westfield, . . .	2,655	2,090	.78	302	Wenham, . . .	189	136	.71
243	Hamilton, . . .	350	275	.78	303	Lowell, . . .	14,700	10,539	.71
244	Prescott, . . .	70	55	.78	304	Becket, . . .	173	124	.71
245	Salisbury, . . .	288	226	.78	305	Gardner, . . .	2,299	1,636	.71
246	Marion, . . .	185	145	.78	306	North Brookfield, . .	500	353	.70
247	Blandford, . . .	105	82	.78	307	Boxford, . . .	112	79	.70
248	Hanson, . . .	324	253	.78	308	Plympton, . . .	94	66	.70
249	Rowe, . . .	100	78	.78	309	New Ashford, . . .	20	14	.70
250	Hawley, . . .	95	74	.77	310	Boxborough, . . .	66	46	.69
251	Watertown, . . .	1,971	1,533	.77	311	Adams, . . .	2,389	1,656	.69
252	Norton, . . .	376	292	.77	312	Chilmark, . . .	32	22	.68
253	Burlington, . . .	89	69	.77	313	Raynham, . . .	262	180	.68
254	Boston, . . .	115,527	89,535	.77	314	Deerfield, . . .	418	287	.68
255	Rehoboth, . . .	348	269	.77	315	Whately, . . .	121	83	.68
256	Barre, . . .	462	357	.77	316	Sturbridge, . . .	368	251	.68
257	Hinsdale, . . .	233	180	.77	317	Pelham, . . .	100	68	.68
258	Chesterfield, . .	101	78	.77	318	Richmond, . . .	111	75	.67
259	Millbury, . . .	920	708	.76	319	Leominster, . . .	2,919	1,955	.66
260	Eastham, . . .	82	63	.76	320	Chicopee, . . .	3,846	2,573	.66
261	Georgetown, . . .	360	276	.76	321	Middleton, . . .	181	121	.66
262	Methuen, . . .	2,064	1,579	.76	322	Hancock, . . .	96	64	.66

## BOARD OF EDUCATION.

TOWNS AND CITIES.					TOWNS AND CITIES.				
		No. of children between 5 and 15 years of age in each town.	Average attendance upon school.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.			No. of children between 5 and 15 years of age in each town.	Average attendance upon school.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.
323	Carlisle, . . .	101	67	.66	339	Hardwick, . . .	578	346	.59
324	Tewksbury, . . .	271	177	.65	340	Hyde Park, . . .	2,859	1,691	.59
325	Mt. Washington, . .	20	13	.65	341	Brewster, . . .	127	75	.59
326	Canton, . . .	850	552	.64	342	Lawrence, . . .	13,084	7,680	.58
327	Spencer, . . .	1,151	747	.64	343	Fall River, . . .	22,557	13,194	.58
328	Ware, . . .	1,617	1,039	.64	344	North Adams, . .	4,757	2,772	.58
329	Harvard, . . .	182	116	.63	345	Tyringham, . . .	74	41	.55
330	Seekonk, . . .	455	288	.63	346	Fitchburg, . . .	6,929	3,818	.55
331	Acushnet, . . .	250	157	.62	347	Shirley, . . .	337	184	.54
332	Peru, . . .	53	33	.62	348	Sutton, . . .	736	400	.54
333	Longmeadow, . . .	193	120	.62	349	Amesbury, . . .	1,533	821	.53
334	Wendell, . . .	95	59	.62	350	Tolland, . . .	30	16	.53
335	Washington, . . .	62	38	.61	351	Holyoke, . . .	11,209	5,746	.51
336	New Bedford, . . .	15,568	9,401	.60	352	Southbridge, . . .	2,173	1,082	.49
337	Salem, . . .	7,204	4,320	.59	353	Dudley, . . .	842	349	.41
338	Greenwich, . . .	82	49	.59	354	Webster, . . .	2,140	786	.36

## GRADUATED ATTENDANCE TABLE.

*In which all the towns in the State are numerically arranged according to the ratio of AVERAGE ATTENDANCE of children upon the public schools for the school year ending June, 1909, to the whole number of children in town between 5 and 15 years of age, September 1, 1909.*

COUNTIES.				Ratio of attendance.	COUNTIES.				Ratio of attendance.
1	Barnstable, . . . . .			1.01	9	Suffolk, . . . . .			.78
2	Plymouth, . . . . .			.95	10	Berkshire, . . . . .			.77
3	Nantucket, . . . . .			.91	11	Worcester, . . . . .			.76
4	Dukes, . . . . .			.91	12	Essex, . . . . .			.75
5	Franklin, . . . . .			.91	13	Hampden, . . . . .			.74
6	Middlesex, . . . . .			.87	14	Bristol, . . . . .			.65
7	Norfolk, . . . . .			.86					
8	Hampshire, . . . . .			.79		State, . . . . .			.79

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